

Access DB# 137988**SEARCH REQUEST FORM****Scientific and Technical Information Center**

Requester's Full Name: Margaret Ensmann Examiner #: 69738 Date: 11-15-04  
Art Unit: 1751 Phone Number 30 21344 Serial Number: 09/171399  
Mail Box and Bldg/Room Location: 9A49 Results Format Preferred (circle): PAPER DISK E-MAIL

**If more than one search is submitted, please prioritize searches in order of need.**

\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: See B1B

Inventors (please provide full names): Sano et al

Earliest Priority Filing Date: 97

*\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Please search 2612

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	Type of Search	Vendors and cost where applicable
Searcher: <u>EL</u>	NA Sequence (#) _____	STN <u>\$ 367.96</u>
Searcher Phone #: _____	AA Sequence (#) _____	Dialog _____
Searcher Location: _____	Structure (#) _____	Questel/Orbit _____
Date Searcher Picked Up: _____	Bibliographic <input checked="" type="checkbox"/>	Dr.Link _____
Date Completed: <u>11-24-04</u>	Litigation _____	Lexis/Nexis _____
Searcher Prep & Review Time: <u>5</u>	Fulltext _____	Sequence Systems _____
Clerical Prep Time: _____	Patent Family _____	WWW/Internet _____
Online Time: <u>90</u>	Other _____	Other (specify) _____

ANSWER 1 OF 1 REGISTRY COPYRIGHT 2004 ACS on STN

RN 151-56-4 REGISTRY

CN **Aziridine (9CI)** (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Ethylenimine (8CI)

OTHER NAMES:

CN Azacyclopropane

CN Aziran

CN Binary Ethyleneimine

CN Dimethylenimine

CN EI

CN Ethyleneimine

CN Fast MEG

CN Q 043

CN Q 043 (amine)

CN Soluol XC 100

FS 3D CONCORD

DR 99932-76-0

MF C2 H5 N

CI COM, RPS

LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN\*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DETHERM\*, DIPPR\*, EMBASE, GMELIN\*, HODOC\*, HSDB\*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK\*, MSDS-OHS, NIOSHTIC, PDLCOM\*, PIRA, PROMT, PS, RTECS\*, SPECINFO, SYNTHLINE, TOXCENTER, TULSA, ULIDAT, USPAT2, USPATFULL, VETU, VTB

(\*File contains numerically searchable property data)

Other Sources: EINECS\*\*, NDSL\*\*, TSCA\*\*

(\*\*Enter CHEMLIST File for up-to-date regulatory information)

DT.CA Caplus document type: Book; Conference; Dissertation; Journal; Patent; Report

RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)

RLD.P Roles for non-specific derivatives from patents: ANST (Analytical study); BIOL (Biological study); MSC (Miscellaneous); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)

RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)

RLD.NP Roles for non-specific derivatives from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); MSC (Miscellaneous); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses)



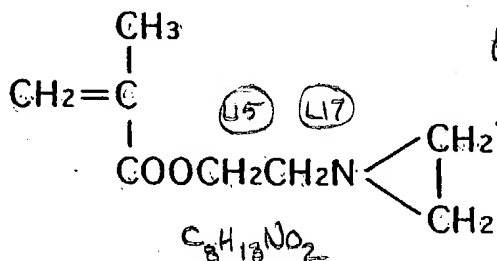
Amendments to the Claims

This listing of claims will replace all prior listings of claims in the application.

Listing of Claims

1.-11. (Canceled)

12. (Currently Amended) Surface treatment chemicals for forming a polymerization reaction product on the surface of a fiber in which the improvement is characterized in that said surface treatment chemicals comprise a water-soluble organic substance selected from the group consisting of at least one of a protein selected from fibroin, collagen and wool, derivatives thereof and polysaccharides, having an average molecular weight of 100 to 20,000, a polymerization initiator and a reactive modifier which is at least one member selected from the group consisting of polyethylene glycol diacrylate, polyethylene glycol dimethacrylate, bisphenol A polyethylene glycol diacrylate, bisphenol A polyethylene glycol dimethacrylate, bisphenol S polyethylene glycol dimethacrylate, polyethylene glycol diglycidyl ether and



← [aziridine group containing]

13.-19. (Canceled)

=> file reg

FILE 'REGISTRY' ENTERED AT 14:08:46 ON 24 NOV 2004  
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FILE 'REGISTRY' ENTERED AT 12:51:57 ON 24 NOV 2004

	E FIBROIN/CN
L1	1 S E3
	E COLLAGEN/CN
	E WOOL/CN
	E POLYETHYLENE GLYCOL DIACRYLATE/CN
L2	1 S E3
	E POLYETHYLENE GLYCOL DIMETHACRYLATE/CN
L3	1 S E3
	E BISPHENOL A POLYETHYLENE GLYCOL DIACRYLATE/CN
L4	1 S E4
L5	1 S 64401-02-1
	E BISPHENOL A POLYETHYLENE GLYCOL DIMETHACRYLATE/CN
	E (C2H4O)N(C2H4O)NC23H24O4/MF
L6	1 S E3
	E BISPHENOL S/CN
	E BISPHENOL S POLYETHYLENE GLYCOL DIMETHACRYLATE/CN

FILE 'LREGISTRY' ENTERED AT 13:05:13 ON 24 NOV 2004

	E BISPHENOL S/CN
L7	1 S E3

FILE 'REGISTRY' ENTERED AT 13:07:25 ON 24 NOV 2004

	E (C2H4O)N(C2H4O)NC20H18O6S/MF
L8	1 S E3
	E POLYETHYLENE GLYCOL DIGLYCIDYL ETHER/CN
L9	1 S E3
	E C8H13NO2/MF
L10	1942 S E3
L11	29891 S ?AZIRIDIN?/CNS
L12	29 S L10 AND L11
L13	366590 S ?PROPENOIC?/CNS
L14	11 S L12 AND L13
	E 2-PROPENOIC ACID, 2-METHYL-, 2-(1-AZIRIDINYL)ETHYL ESTE
L15	1 S E3
	E (C2H4O)N(C2H4O)NC22H22O6S/MF
	E (C2H4O)N(C2H4O)NC18H14O6S/MF
L16	1 S E3

L17 E 2-PROPENOIC ACID, 2-(1-AZIRIDINYL)ETHYL ESTER/CN  
1 S E3

FILE 'HCA' ENTERED AT 14:00:58 ON 24 NOV 2004

L18 3526 S L1 OR FIBROIN#  
L19 82339 S COLLAGEN#  
L20 58252 S WOOL?  
L21 2229 S L2 OR L3  
L22 1037 S L5 OR L6  
L23 9 S L8 OR L16  
L24 589 S L9  
L25 82 S L15 OR L17  
L26 12 S L18 AND (L21 OR L22 OR L23 OR L24 OR L25)  
L27 51 S L19 AND (L21 OR L22 OR L23 OR L24 OR L25)  
L28 34 S L19 AND L21  
L29 3 S L19 AND L22  
L30 0 S L19 AND L23  
L31 16 S L19 AND L24  
L32 2 S L19 AND L25  
L33 17 S L20 AND (L21 OR L22 OR L23 OR L24 OR L25)  
L34 121046 S SURFACE?(2A) (FINISH? OR TREAT? OR PRETREAT? OR CONDITIO  
L35 0 S L28 AND L34  
L36 1 S (L26 OR L29 OR L31 OR L32 OR L33 OR L28) AND L34  
L37 77 S (L26 OR L29 OR L31 OR L32 OR L33 OR L28) NOT L36  
L38 45 S (L26 OR L29 OR L31 OR L32 OR L33) NOT L36  
L39 32 S L28 NOT (L36 OR L38)

=> file hca

FILE 'HCA' ENTERED AT 14:12:21 ON 24 NOV 2004

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=> d l36 1 ibib abs hitstr hitind

L36 ANSWER 1 OF 1 HCA COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 138:74644 HCA

TITLE: Manufacture of animal protein fibers showing low  
heat of wetting

INVENTOR(S): Fujiwara, Hisashi; Yamada, Hiroo

PATENT ASSIGNEE(S): Unitika Textile Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

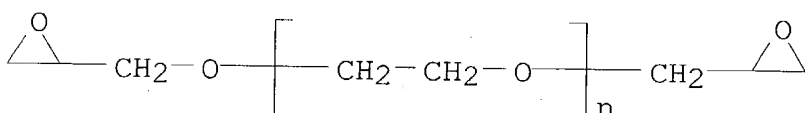
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003003374	A2	20030108	JP 2001-191205	20010625
PRIORITY APPLN. INFO.:				20010625
				20010625

AB The fibers are manufd. by (a) **treating surfaces** of animal protein fibers with hydrophobic polymers or (b) reaction of fibers with epoxy polymers. Thus, **wool** was treated with Polymer PL (aminoacrylic copolymer), spun into yarn, and woven to give a fabric showing reduced heat generation on humidification and low shrinkage on laundering.

IT **26403-72-5**, Polyethylene glycol diglycidyl ether  
 (polymer-treated animal protein fibers showing low heat of wetting)

RN 26403-72-5 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-(oxiranylmethyl)-.omega.-(oxiranylmethoxy)- (9CI) (CA INDEX NAME)



IC ICM D06M015-267  
 ICS D06M011-11; D06M015-55; D06M101-12

CC 40-7 (Textiles and Fibers)

ST animal protein fiber hydrophobic polymer treatment; **wool**  
 wetting heat low hydrophobic polymer; epoxy polymer treatment animal protein fiber

IT **Wool**  
 (polymer-treated animal protein fibers showing low heat of wetting)

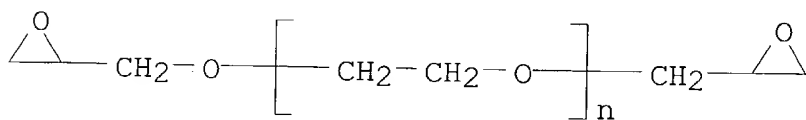
IT **26403-72-5**, Polyethylene glycol diglycidyl ether  
 186511-59-1, Polymer PL  
 (polymer-treated animal protein fibers showing low heat of wetting)

=> d his 140-

FILE 'HCA' ENTERED AT 14:12:21 ON 24 NOV 2004  
 L40 31 S L38 AND (1900-1997/PY OR 1900-1997/PRY)  
 L41 3 S L39 AND (1900-1997/PY OR 1900-1997/PRY)

=> d 140 1-31 cbib abs hitstr hitind

L40. ANSWER 1 OF 31 HCA COPYRIGHT 2004 ACS on STN  
 130:200957 A method of making a crosslinked **collagen**-based material and bioprosthetic devices produced therefrom. Hendriks, Marc; Verhoeven, Michel; Cahalan, Patrick T.; Zeeman, Raymond; Dijkstra, Piet J.; Feijen, Jan (Medtronic, Inc., USA). Eur. Pat. Appl. EP 898973 A2 19990303, 21 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP 1998-306596 19980818. PRIORITY: US 1997-912392 19970818.  
 AB A method of making a crosslinked **collagen**-based material having **collagen** amine groups and **collagen** carboxyl groups is provided. The method comprises combining an epoxy-functionalized crosslinking agent with the **collagen**-based material in an aq. medium at an acidic pH to react a portion of the **collagen** carboxyl groups with the epoxy functionalized crosslinking agent to form crosslinked **collagen**-based material comprising residual **collagen** carboxyl groups. Bioprosthetic devices made from **collagen**-based material according to the invention are also provided.  
 IT 26403-72-5, Polyethylene glycol diglycidyl ether (crosslinker; prepn. of crosslinked **collagens** for bioprosthetic devices)  
 RN 26403-72-5 HCA  
 CN Poly(oxy-1,2-ethanediyl), .alpha.-(oxiranylmethyl)-.omega.-(oxiranylmethoxy)- (9CI) (CA INDEX NAME)



IC ICM A61L027-00  
 CC 63-7 (Pharmaceuticals)  
 ST prosthetic crosslinked **collagen**  
 IT **Collagens**, biological studies (crosslinked; prepn. of crosslinked **collagens** for bioprosthetic devices)  
 IT Prosthetic materials and Prosthetics

(implants; prepn. of crosslinked **collagens** for bioprosthetic devices)

IT Heart

(valve, artificial; prepn. of crosslinked **collagens** for bioprosthetic devices)

IT 616-02-4, Citraconic anhydride 2466-76-4, 1-Acetylimidazole  
6066-82-6, N-Hydroxysuccinimide 14464-29-0, Acetic acid  
N-hydroxysuccinimide ester

(acylating agent; prepn. of crosslinked **collagens** for bioprosthetic devices)

IT 420-04-2, Cyanamide 530-62-1, 1,1'-Carbonyldiimidazole 538-75-0,  
N,N'-Dicyclohexylcarbodiimide 693-13-0, N,N'-  
Diisopropylcarbodiimide 2491-17-0 16357-59-8,  
2-Ethoxy-1-ethoxycarbonyl-1,2-dihydroquinoline 67543-13-9,  
N-Ethyl-5-phenylisoxazolium 3-sulfonate 74124-79-1,  
N,N'-Disuccinimidyl carbonate 94820-31-2

(carboxyl group activator; prepn. of crosslinked **collagens** for bioprosthetic devices)

IT 111-30-8, Glutaraldehyde 2224-15-9, Glycol diglycidyl ether  
2425-79-8, 1,4-Butanediol diglycidyl ether 13236-02-7, Glycerol  
triglycidyl ether 25952-53-8, 1-Ethyl-3-(3-  
dimethylaminopropyl)carbodiimide hydrochloride 26142-30-3,  
Polypropylene glycol diglycidyl ether **26403-72-5**,  
Polyethylene glycol diglycidyl ether 27043-36-3, Glycerol  
diglycidyl ether

(crosslinker; prepn. of crosslinked **collagens** for bioprosthetic devices)

IT 1122-58-3, 4-Dimethylaminopyridine 2592-95-2, N-  
Hydroxybenzotriazole 21715-90-2, N-Hydroxy-5-norbornene-2,3-  
dicarboximide

(stabilizer; prepn. of crosslinked **collagens** for bioprosthetic devices)

L40 ANSWER 2 OF 31 HCA COPYRIGHT 2004 ACS on STN

129:261375 Antistatic thermoplastic, crosslinked elastomeric or thermosetting polymer compositions. Hilti, Bruno; Burkle, Markus; Pfeiffer, Jurgen; Minder, Ernst; Grob, Markus (Ciba Specialty Chemicals Corp., USA). U.S. US 5814688 A 19980929, 11 pp. (English). CODEN: USXXAM. APPLICATION: US 1997-795719 19970204.

AB The invention relates to a compn. comprising a thermoplastic, structurally crosslinked elastomeric or thermosetting polymer, which comprises (a) a polar, adsorptive inorg. or org. material in the form of fibers or particles which are in mutual contact, onto which is adsorptively bound (b) a polar antistatic agent comprising a mixt. of (b1) at least one polar org. compd. having at least 5 carbon atoms and at least 3 heteroatoms, and (b2) a salt of an inorg. protic acid, which is solvated or complexed in the polar org. compd. The invention also relates to a second compn. comprising (a)



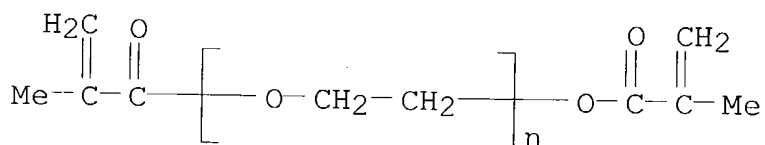
a polar inorg. or org. material, (b1) a polar org. compd. having at least 5 carbon atoms and at least 3 heteroatoms and (b2) an inorg. salt, to the use of this second compn. for the antistatic treatment of polymers, and to a process for prepg. antistatically treated polymers.

IT 25852-47-5 26570-48-9

(antistatic thermoplastic, crosslinked elastomeric or thermosetting polymer compns.)

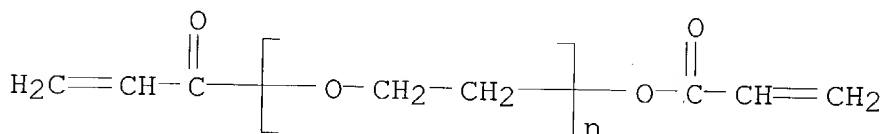
RN 25852-47-5 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-(2-methyl-1-oxo-2-propenyl)-.omega.-[(2-methyl-1-oxo-2-propenyl)oxy]- (9CI) (CA INDEX NAME)



RN 26570-48-9 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-(1-oxo-2-propenyl)-.omega.-[(1-oxo-2-propenyl)oxy]- (9CI) (CA INDEX NAME)



IC ICM C08L001-02

ICS C08L089-00; C08L089-04; C08L097-02

NCL 524009000

CC 37-6 (Plastics Manufacture and Processing)

IT Antistatic agents

Cotton fibers

Flax

Jute

Kapok (Ceiba pentandra)

Ramie fibers

Silk

**Wool**

(antistatic thermoplastic, crosslinked elastomeric or thermosetting polymer compns.)

IT 2926-27-4, Potassium triflate 2926-30-9, Sodium triflate  
7601-89-0, Sodium perchlorate 7778-74-7, Potassium perchlorate  
7791-03-9, Lithium perchlorate 9004-74-4 9004-81-3, Polyethylene glycol lauryl ester 9004-96-0, Polyethylene glycol oleic acid ester 9004-98-2, Polyethylene glycol oleyl ether 9005-00-9, Polyethylene glycol stearyl ether 9005-64-5, Polyethylene glycol

sorbitan monolaurate 9011-05-6, Formaldehyde-urea copolymer  
 9064-14-6, Polypropylene glycol dodecyl ether 10034-81-8,  
 Magnesium perchlorate 13477-36-6, Calcium perchlorate  
 13637-61-1, Zinc perchlorate 13755-29-8, Sodium tetrafluoroborate  
 14075-53-7, Potassium tetrafluoroborate 14283-07-9, Lithium  
 tetrafluoroborate 17084-13-8, Potassium hexafluorophosphate  
 24991-55-7, Polyethylene glycol dimethyl ether **25852-47-5**  
**26570-48-9** 33454-82-9, Lithium triflate 52581-71-2  
 55120-75-7, Calcium triflate 60871-83-2, Magnesium triflate  
 68238-81-3, Ethylene oxide-propylene oxide copolymer lauryl ether  
 78415-39-1 194469-72-2  
 (antistatic thermoplastic, crosslinked elastomeric or  
 thermosetting polymer compns.)

L40 ANSWER 3 OF 31 HCA COPYRIGHT 2004 ACS on STN

127:347562 Finishing agents for fibers for improved hygroscopicity and  
 surface touch and fibers and products finished with them. Sano,  
 Masahiro; Yasue, Takaharu; Fukatsu, Fumioki (Idemitsu Petrochemical  
 Co., Ltd., Japan). PCT Int. Appl. WO 9740227 A1 19971030,  
 45 pp. DESIGNATED STATES: W: CA, JP, KR, US; RW: AT, BE, CH, DE,  
 DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (Japanese).  
 CODEN: PIXXD2. APPLICATION: WO 1997-JP1350 19970418. PRIORITY: JP  
 1996-98760 19960419; JP 1996-98761 19960419; JP 1996-183725  
 19960712.

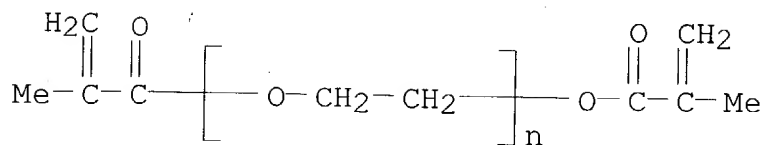
AB The agents comprise crosslinked functional proteins and solvent-sol.  
 or waterborne polymers and optionally contain H<sub>2</sub>O-sol. org. compds.  
 with av. mol. wt. 100-20,000 and reactive modifiers and are useful  
 for finishing fibers, fabrics, and leather substitutes and in manuf.  
 of hygroscopic films. Dyed panty hoses were treated with an aq.  
 soln. contg. 4% crosslinked functional protein (prepd. by treating  
 whey protein with TDI for 2 h at 45.degree.) and 2% UN-11  
 (polyurethane emulsion) for 15 min at 40.degree. to pickup 30%,  
 dried, and heat-set to give stockings with surface touch rating (5  
 best, 1 worst) 4.2, H<sub>2</sub>O absorption time .ltoreq.1 s, and  
 friction-induced electrostatic charge 1200 V and exhibiting good  
 retention of adhesion of the protein on washing the stockings for 10  
 cycles.

IT **25852-47-5** **26403-72-5**, Polyethylene glycol  
 diglycidyl ether **41637-38-1**, Ethoxylated bisphenol A  
 dimethacrylate

(crosslinking agent; finishing agents contg. crosslinked  
 functional proteins and polymers for fibers and films for  
 improved hygroscopicity and surface touch)

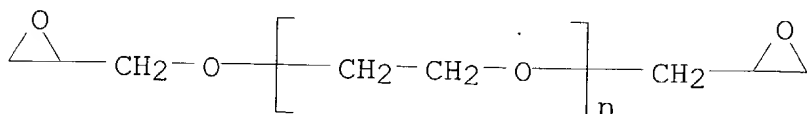
RN 25852-47-5 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-(2-methyl-1-oxo-2-propenyl)-  
 .omega.-[(2-methyl-1-oxo-2-propenyl)oxy]- (9CI) (CA INDEX NAME)



RN 26403-72-5 HCA

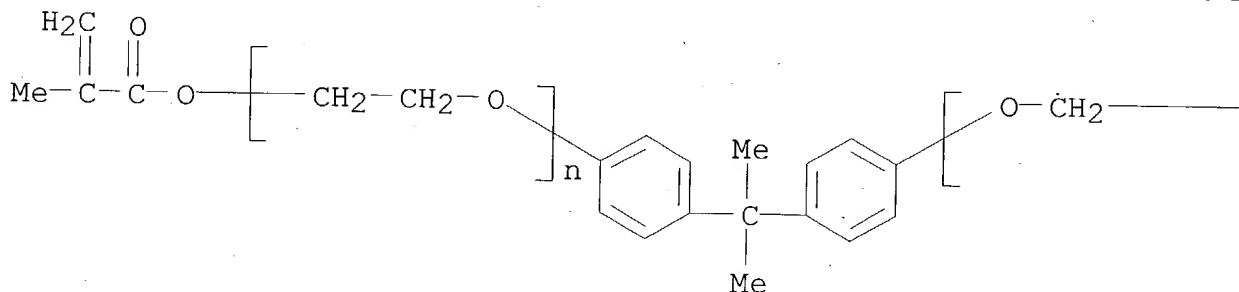
CN Poly(oxy-1,2-ethanediyl), .alpha.-(oxiranylmethyl)-.omega.-(oxiranylmethoxy)- (9CI) (CA INDEX NAME)



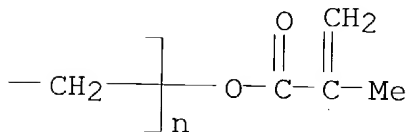
RN 41637-38-1 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.,.alpha.'-[(1-methylethylidene)di-4,1-phenylene]bis[.omega.-[(2-methyl-1-oxo-2-propenyl)oxy]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM D06M015-15

ICS D06M015-03

CC 40-9 (Textiles and Fibers)

Section cross-reference(s): 38

IT **Collagens**, uses

**Fibroin**

(Neutoriran, hydrophilization aid; finishing agents contg. crosslinked functional proteins and polymers for fibers and films for improved hygroscopicity and surface touch)

IT **Wool**

(finishing agents contg. functional proteins and polymers for fibers and films for improved hygroscopicity and surface touch)

IT **Fibroin**

(hydrolyzates, crosslinked; finishing agents contg. crosslinked functional proteins and polymers for fibers and films for improved hygroscopicity and surface touch)

IT 25721-76-0, Polyethylene glycol dimethacrylate **25852-47-5****26403-72-5**, Polyethylene glycol diglycidyl ether**41637-38-1**, Ethoxylated bisphenol A dimethacrylate

(crosslinking agent; finishing agents contg. crosslinked functional proteins and polymers for fibers and films for improved hygroscopicity and surface touch)

L40 ANSWER 4 OF 31 HCA COPYRIGHT 2004 ACS on STN

127:140590 Process for preparing a sterile, dry crosslinking agent. Rhee, Woonza M.; Berg, Richard A.; Rosenblatt, Joel S.; Schroeder, Jacqueline A.; Braga, Larry J.; Smestad, Thomas L.; Freeman, Abigail (Collagen Corp., USA). U.S. US 5643464 A, **19970701**, 15 pp., Cont.-in-part of U.S. Ser. No. 287,549. (English). CODEN: USXXAM. APPLICATION: US 1995-497573 19950630. PRIORITY: US 1988-274071 19881121; US 1989-433441 19891114; US 1992-922541 19920730; US 1994-198128 19940217; US 1994-236769 19940502; US 1994-287549 19940808.

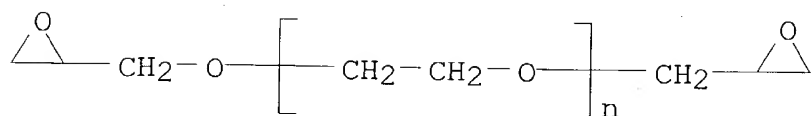
AB The present invention discloses a novel method for prepg. crosslinked biomaterial compns. for use in the augmentation of soft or hard tissue. In general, the method comprises mixing a biocompatible polymer, which is preferably collagen, with a sterile, dry crosslinking agent, which is preferably a synthetic hydrophilic polymer such as a functionally activated polyethylene glycol. Also provided are preferred processes for prepg. sterile, dry crosslinking agents contained within syringes for use in the method of the invention. Methods for sterilization of the crosslinking agent include, but are not limited to, sterile filtration, aseptic processing, and electron beam or gamma irradiation. Methods for providing augmentation of soft or hard tissue using crosslinked biomaterial compns. prepd. according to the method of the invention are also disclosed.

IT **26403-72-5**

(activated PEG derivs. for in-situ crosslinking biocompatible polymers for tissue augmentation)

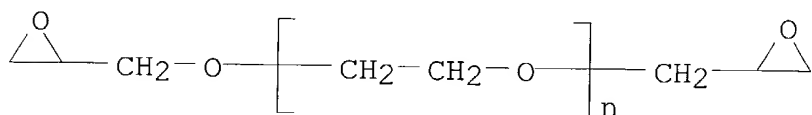
RN 26403-72-5 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-(oxiranylmethyl)-.omega.-(oxiranylmethoxy)- (9CI) (CA INDEX NAME)



- IC ICM B01J019-08  
ICS A01N001-02; A61F002-00  
NCL 210748000  
CC 63-7 (Pharmaceuticals)  
ST PEG deriv crosslinker **collagen** prosthetic implant  
IT **Collagens**, biological studies  
(crosslinked; activated PEG derivs. for in-situ crosslinking biocompatible polymers for tissue augmentation)
- IT **26403-72-5** 62066-14-2 122375-06-8 123502-57-8  
151709-76-1 154467-38-6 159194-63-5  
(activated PEG derivs. for in-situ crosslinking biocompatible polymers for tissue augmentation)
- L40 ANSWER 5 OF 31 HCA COPYRIGHT 2004 ACS on STN  
126:108967 **Collagen**-based biocompatible adhesive compositions for attachment of tissues. Rhee, Wonza M.; Rao, Prema R.; Chu, George H.; DeLustro, Frank A.; Harner, Carol F. H.; Sakai, Naomi; Schroeder, Jacqueline A. (Collagen Corporation, USA; Cohesion Technologies Inc.). Eur. Pat. Appl. EP 747066 A2 **19961211**, 26 pp. DESIGNATED STATES: R: AT, CH, DE, ES, FR, GB, IT, LI, NL. (English). CODEN: EPXXDW. APPLICATION: EP 1996-108503 19960529. PRIORITY: US 1995-476825 19950607; US 1995-573801 19951218.
- AB **Collagen**-based compns. useful in the attachment of tissues, or the attachment of tissues to synthetic implant materials, are disclosed. The compns. comprise **collagen** crosslinked using a multifunctionally activated synthetic hydrophilic polymer. A particularly preferred compn. comprises fibrillar **collagen**, a fiber disassembly agent, and a multifunctionally activated synthetic hydrophilic polymer. Methods are disclosed for using the compns. to effect the attachment of a native tissue to the surface of another native tissue, a non-native tissue, or a synthetic implant. Also disclosed are methods of using the compns. to prevent the formation of surgical adhesions. Thus, 900 .mu.L of methylated **collagen** (prepn. given) having a **collagen** concn. of 33 mg/mL was mixed with .apprx. 13.5 mg difunctionally activated succinimidyl glutarate-polyethylene glycol (I) in 150 .mu.L of phosphate-buffered saline. This mixt. was extruded onto a bloody wound site on the liver of a previously sacrificed rabbit and allowed to gel for 1 min. The skin was then placed on top of the gel and held in place for 1 min. The skin was removed to show that methylated **collagen**-I gel adhered very well to the liver, not as well to th skin.

- IT 26403-72-5DP, reaction products with **collagens**  
 (collagen-based biocompatible adhesive compns. for attachment of tissues)
- RN 26403-72-5 HCA
- CN Poly(oxy-1,2-ethanediyl), .alpha.-(oxiranylmethyl)-.omega.-(oxiranylmethoxy)- (9CI) (CA INDEX NAME)



- IC ICM A61L025-00
- CC 63-7 (Pharmaceuticals)  
 Section cross-reference(s): 1
- ST **collagen** biocompatible adhesive tissue adhesion;  
 succinimidyl glutarate polyethylene glycol **collagen** gel
- IT Adhesives  
 (biol.; **collagen**-based biocompatible adhesive compns. for attachment of tissues)
- IT **Collagens**, reactions  
 (collagen-based biocompatible adhesive compns. for attachment of tissues)
- IT Alcohols, biological studies  
 (collagen-based biocompatible adhesive compns. for attachment of tissues)
- IT Amino acids, biological studies  
 (collagen-based biocompatible adhesive compns. for attachment of tissues)
- IT Animal tissue  
 (collagen-based biocompatible adhesive compns. for attachment of tissues)
- IT Carbohydrates, biological studies  
 (collagen-based biocompatible adhesive compns. for attachment of tissues)
- IT Salts, biological studies  
 (collagen-based biocompatible adhesive compns. for attachment of tissues)
- IT **Collagens**, biological studies  
 (crosslinked; **collagen**-based biocompatible adhesive compns. for attachment of tissues)
- IT Prosthetic materials and Prosthetics  
 (implants; **collagen**-based biocompatible adhesive compns. for attachment of tissues)
- IT **Collagens**, biological studies  
 (reaction products; **collagen**-based biocompatible adhesive compns. for attachment of tissues)
- IT **Collagens**, reactions

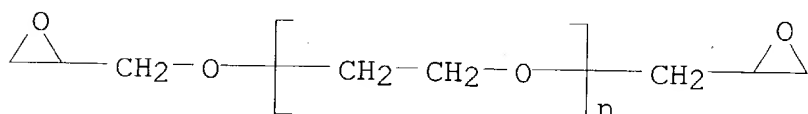
- (type I; **collagen**-based biocompatible adhesive compns. for attachment of tissues)
- IT **Collagens**, reactions  
(type II; **collagen**-based biocompatible adhesive compns. for attachment of tissues)
- IT **Collagens**, reactions  
(type IV; **collagen**-based biocompatible adhesive compns. for attachment of tissues)
- IT **Collagens**, reactions  
(type VII; **collagen**-based biocompatible adhesive compns. for attachment of tissues)
- IT 108-30-5, reactions 154467-38-6  
(**collagen**-based biocompatible adhesive compns. for attachment of tissues)
- IT **26403-72-5DP**, reaction products with **collagens**  
62066-14-2DP, reaction products with **collagens**  
122375-06-8DP, reaction products with **collagens**  
123502-57-8DP, reaction products with **collagens**  
151709-76-1DP, reaction products with **collagens**  
159194-63-5DP, reaction products with **collagens**  
186020-53-1DP, reaction products with **collagens**  
(**collagen**-based biocompatible adhesive compns. for attachment of tissues)
- IT 56-81-5, 1,2,3-Propanetriol, biological studies 57-55-6,  
1,2-Propanediol, biological studies  
(**collagen**-based biocompatible adhesive compns. for attachment of tissues)
- L40 ANSWER 6 OF 31 HCA COPYRIGHT 2004 ACS on STN
- 125:285010 Method of preparing crosslinked polymeric biomaterial compositions for use in tissue augmentation. Rhee, Woonza M.; Berg, Richard A.; Rosenblatt, Joel S.; Tefft, Jacqueline A.; Braga, Larry J.; Smestad, Thomas L. (USA). U.S. US 5550187 A **19960827**, 14 pp., Cont.-in-part of U.S. Ser. No. 236,769. (English). CODEN: USXXAM. APPLICATION: US 1994-287549 19940808. PRIORITY: US 1988-274071 19881121; US 1989-433441 19891114; US 1992-922541 19920730; US 1994-198128 19940217; US 1994-236769 19940502.
- AB The present invention discloses a novel method for prepg. crosslinked biomaterial compns. for use in the augmentation of soft or hard tissue. In general, the method comprises mixing a biocompatible polymer, which is preferably **collagen**, with a sterile, dry crosslinking agent, which is preferably a synthetic hydrophilic polymer such as a functionally activated polyethylene glycol. Also provided are preferred processes for prepg. sterile, dry crosslinking agents contained within syringes for use in the method of the invention. Methods for sterilization of the crosslinking agent include, but are not limited to, sterile filtration, aseptic processing, and e-beam or gamma irradiation. Methods

for providing augmentation of soft or hard tissue using crosslinked biomaterial compns. prepd. according to the method of the invention are also disclosed. A sterile, dry crosslinking agent was prepd. by mixing 1500 mg of disfunctionally activated PEG succinimidyl glutarate with 150 mL of water for injection and filtration sterilization using a Durapore filter; 0.5 mL of soln. obtained was aliquotted into each of 180 3 cc syringes and lyophilized.

IT 26403-72-5DP, reaction products with **collagen**  
(prepn. of biopolymers crosslinked with activated polyethylene glycol as implant biomaterial for tissue augmentation)

RN 26403-72-5 HCA

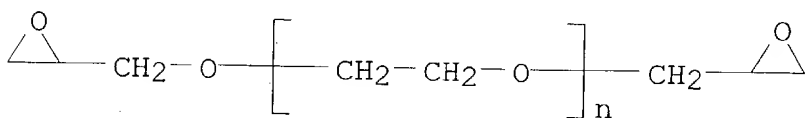
CN Poly(oxy-1,2-ethanediyl), .alpha.-(oxiranylmethyl)-.omega.-(oxiranylmethoxy)- (9CI) (CA INDEX NAME)



IT 26403-72-5  
(prepn. of biopolymers crosslinked with activated polyethylene glycol as implant biomaterial for tissue augmentation)

RN 26403-72-5 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-(oxiranylmethyl)-.omega.-(oxiranylmethoxy)- (9CI) (CA INDEX NAME)



IC C08G063-49; C08G063-91

NCL 525054100

CC 63-7 (Pharmaceuticals)

Section cross-reference(s): 38

IT **Collagens**, biological studies

Glycosaminoglycans, biological studies

(crosslinking of; prepn. of biopolymers crosslinked with activated polyethylene glycol as implant biomaterial for tissue augmentation)

IT Biopolymers

**Collagens**, biological studies

(crosslinked, prepn. of biopolymers crosslinked with activated polyethylene glycol as implant biomaterial for tissue augmentation)

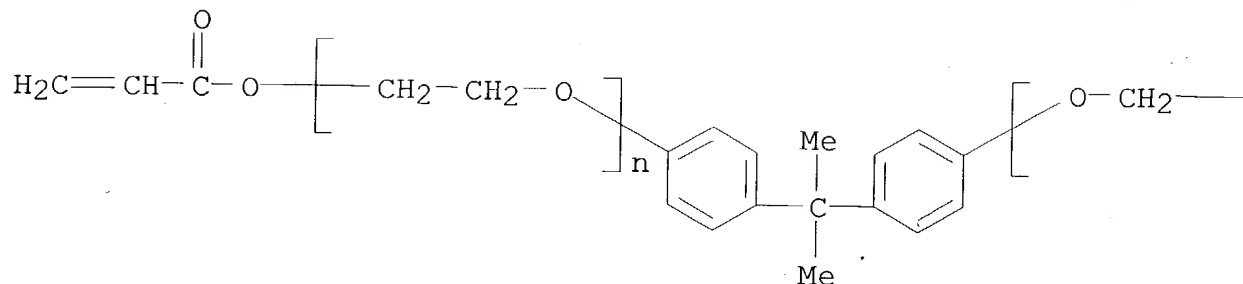
IT **Collagens**, biological studies

(fibers, crosslinking of; prepn. of biopolymers crosslinked with activated polyethylene glycol as implant biomaterial for tissue augmentation)

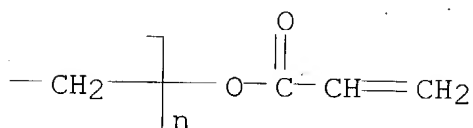


- augmentation)
- IT 25322-68-3DP, derivs., reaction products with biopolymers  
26403-72-5DP, reaction products with collagen  
62066-14-2DP, reaction products with collagen  
151709-76-1DP, Polyethylene glycol propion aldehyde, reaction products with collagen 154467-38-6DP, Polyethylene glycol succinimidyl glutarate, reaction products with collagen 155919-13-4DP, Polyethylene glycol succinimidyl carbonate, reaction products with collagen  
159194-63-5DP, reaction products with collagen  
182677-57-2DP, reaction products with collagen  
(prepn. of biopolymers crosslinked with activated polyethylene glycol as implant biomaterial for tissue augmentation)
- IT 26403-72-5 62066-14-2 151709-76-1, Polyethylene glycol propion aldehyde 154467-38-6, Polyethylene glycol succinimidyl glutarate 155919-13-4, Polyethylene glycol succinimidyl carbonate 159194-63-5 182677-57-2  
(prepn. of biopolymers crosslinked with activated polyethylene glycol as implant biomaterial for tissue augmentation)
- L40 ANSWER 7 OF 31 HCA COPYRIGHT 2004 ACS on STN  
125:67872 Photopolymerizable ethylenically unsaturated compounds for simulated hair. Weber, Michael R.; Weber, Paul J. (USA). U.S. US 5521228 A 19960528, 4 pp. (English). CODEN: USXXAM.  
APPLICATION: US 1995-373407 19950117.
- AB A method for forming simulated hair strands on the scalp by utilizing a compn. contg. an ethylenically unsatd. monomer and a photoinitiator. The compn. is applied to the scalp, strands are formed and the strands are cured by light.
- IT 64401-02-1  
(photopolymerizable ethylenically unsatd. compds. for simulated hair)
- RN 64401-02-1 HCA  
CN Poly(oxy-1,2-ethanediyl), .alpha.,.alpha.'-[(1-methylethylidene)di-4,1-phenylene]bis[.omega.-[(1-oxo-2-propenyl)oxy]- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



IC ICM C08F002-46  
 NCL 522037000  
 CC 63-7 (Pharmaceuticals)  
 Section cross-reference(s): 38, 62  
 IT **Collagens**, biological studies  
 Synthetic fibers, polymeric  
 (photopolymerizable ethylenically unsatd. compds. for simulated hair)  
 IT **64401-02-1**  
 (photopolymerizable ethylenically unsatd. compds. for simulated hair)

L40 ANSWER 8 OF 31 HCA COPYRIGHT 2004 ACS on STN  
 124:235497 Method of controlling structure stability of **collagen** fibers produced from solutions or dispersions treated with sodium hydroxide for infectious agent deactivation. Shenoy, Vivek N.; Revak, Tim T.; Chu, George H.; McMullin, Hugh R.; Rosenblatt, Joel S.; Martin, George R. (Collagen Corporation, USA). Eur. Pat. Appl. EP 696617 A2 **19960214**, 22 pp. DESIGNATED STATES: R: CH, DE, ES, FR, GB, IE, IT, LI, NL. (English). CODEN: EPXXDW.  
 APPLICATION: EP 1995-108306 19950530. PRIORITY: US 1994-274673 19940713.

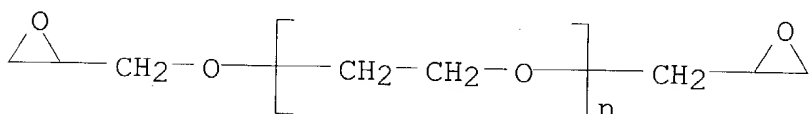
AB In the method, the control of fiber stability can be achieved by using a phys. or chem. stabilizer for the fiber. The phys. stabilizer is used to protect the stability of the assembled fibers, without providing for covalent bonding between fibrils which make up

the fibers. The chem. stabilizer such as crosslinking agent, is used to provide covalent bonding between fibrils, whereby the fibers are stabilized. A dispersion or soln. of **collagen** fibers is stabilized by a phys. stabilizer, e.g. a polymeric material, through the pptn. of fibers. Preferred polymeric materials are water-sol. or water-miscible and biocompatible materials such as a polyethylene glycol or their derivs.

IT 26403-72-5, Polyethylene glycol diglycidyl ether  
(crosslinking stabilizer; method for structure stability in deactivation of fibrous **collagen**)

RN 26403-72-5 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-(oxiranylmethyl)-.omega.-(oxiranylmethoxy)- (9CI) (CA INDEX NAME)



IC ICM C08L089-06

ICS D01F004-00; A01N001-00; A61L015-32

CC 45-2 (Industrial Organic Chemicals, Leather, Fats, and Waxes)  
Section cross-reference(s): 40

ST **collagen** fiber deactivation stabilization; polyethylene glycol stabilization fibrous **collagen**

IT **Collagens**, processes

(fibrous; method for structure stability in deactivation of)

IT Crosslinking agents

(in method for structure stability in deactivation of fibrous **collagen**)

IT Polyoxyalkylenes, uses

(stabilizer; in method for structure stability in deactivation of fibrous **collagen**)

IT 111-30-8, Glutaraldehyde 151-51-9, Carbodiimide 822-06-0, HMDI

26403-72-5, Polyethylene glycol diglycidyl ether

29878-26-0, Dimethyl suberimide 151709-76-1, Polyethylene glycol

propionaldehyde 154467-38-6, Polyethylene glycol succinimidyl

glutarate 155919-13-4, Polyethylene glycol succinimidyl carbonate

(crosslinking stabilizer; method for structure stability in deactivation of fibrous **collagen**)

IT 9000-69-5, Pectin 9005-32-7, Alginic acid

(method for structure stability in deactivation of fibrous **collagen**)

IT 9002-89-5, Poly(vinyl alcohol) 9003-05-8, Polyacrylamide

9003-09-2, Poly(vinyl methyl ether) 9003-39-8,

Polyvinylpyrrolidone 9004-53-9, Dextrin 9004-54-0, Dextran, uses

9004-62-0, Hydroxyethyl cellulose 9004-64-2, Hydroxypropyl

cellulose 9004-67-5, Methyl cellulose 9005-27-0, Hydroxyethyl

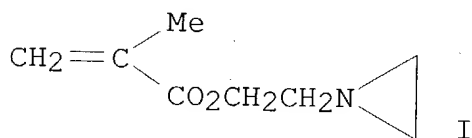
starch 9012-36-6, Agarose 25322-68-3, Polyethylene glycol 25322-69-4, Polypropylene glycol 37353-59-6, Hydroxymethyl cellulose

(stabilizer; method for structure stability in deactivation of fibrous collagen)

L40 ANSWER 9 OF 31 HCA COPYRIGHT 2004 ACS on STN

124:204872 Modified polyester fibers with lasting antimicrobial and/or hygroscopic properties and their manufacture. Murakami, Shuichi; Hara, Masaru; Kawasaki, Hisano (Komatsu Seiren Co, Japan). Jpn. Kokai Tokkyo Koho JP 07300770 A2 19951114 Heisei, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1994-91576 19940428.

GI



AB Title fibers are prepd. by treating polyester fibers with solns. contg. collagens and/or radically polymerizable unsatd. compd. bactericides and monomers contg. polyoxyalkylene groups having mol. wt. .gtoreq.1000 and contg. .gtoreq.2 radically polymerizable double bonds or monomer mixts. comprising bifunctional compds.  $\text{CH}_2:\text{CZCO}_2(\text{CH}_2\text{CH}_2\text{O})_a(\text{CHCH}_2\text{O})_x\text{R}(\text{OCH}_2\text{CH})_y(\text{OCH}_2\text{CH}_2)\text{bOCCZ}:\text{CH}_2$ , (R = 1,4-C<sub>6</sub>H<sub>4</sub>CH<sub>2</sub>-1,4-C<sub>6</sub>H<sub>4</sub>, 1,4-C<sub>6</sub>H<sub>4</sub>CMe<sub>2</sub>-1,4-C<sub>6</sub>H<sub>4</sub>, 1,4-C<sub>6</sub>H<sub>4</sub>SO<sub>2</sub>-1,4-C<sub>6</sub>H<sub>4</sub>, CnH<sub>2</sub>n; n = 1-6; Z = H, Me; a + b = 0-50; x + y = 0-30; a + b + x + y .gtoreq.10), compds. contg. OH, CO<sub>2</sub>H, NH<sub>2</sub>, sulfonic acid groups, or phosphoric acid groups, and compds. contg. 1 aziridine group or polyfunctional compds. contg. .gtoreq.2 aziridine groups and polymg. the compns. to give fibers with the surface mol. chain grafted with collagens and/or bactericides. A polyester crepe was impregnated with a soln. contg. CH<sub>2</sub>:CMeCO<sub>2</sub>(CH<sub>2</sub>CH<sub>2</sub>O)<sub>14</sub>OCCMe:CH<sub>2</sub> 4.0%, methacrylic acid 0.5%, aziridine compd. I 0.5%, atelocollagen soln. 3.0%, chitosan soln. 3.0%, and ammonium persulfate 0.5% and heat treated under steam at 110.degree. for 10 min to give a fabric showing lasting antimicrobial, antistatic and water absorption properties.

IT 6498-81-3DP, graft polymers with collagens, monomers, bactericides and polyesters 41637-38-1DP, graft polymers with collagens, monomers, bactericides and polyesters

(for polyester fibers with lasting antimicrobial and/or hygroscopic properties)

RN 6498-81-3 HCA

$$\begin{array}{c} \text{CH}_2-\text{CH}_2-\text{O}-\text{C}(=\text{O})-\text{C}(\text{Me})=\text{CH}_2 \\ | \\ \text{N} \end{array}$$

CN Poly(oxy-1,2-ethanediyl), .alpha.,.alpha.'-[(1-methylethylidene)di-  
4,1-phenylene]bis[.omega.-[(2-methyl-1-oxo-2-propenyl)oxy]- (9CI)  
(CA INDEX NAME)

$$\text{Me}-\overset{\text{H}_2\text{C}}{\underset{\parallel}{\text{C}}}-\overset{\text{O}}{\underset{\parallel}{\text{C}}}-\text{O}-\left[\text{CH}_2-\text{CH}_2-\text{O}\right]_n-\text{C}_6\text{H}_4-\overset{\text{Me}}{\underset{\text{Me}}{\underset{|}{\text{C}}}}-\text{C}_6\text{H}_4-\left[\text{O}-\text{CH}_2-\right]_m$$
$$\text{---CH}_2\text{---} \left[ \text{---CH}_2\text{---CH}_2\text{---O---C(=O)---C(=O)---CH}_2\text{---Me} \right]_n$$

(graft polymers with **collagens**, monomers and polyesters; for polyester fibers with lasting antimicrobial

- and/or hygroscopic properties)
- IT Polyester fibers, uses  
(grafted with **collagens** and/or bactericides; with lasting antimicrobial and/or hygroscopic properties)
- IT Polymerization  
(graft, of **collagens**, bactericides and monomers onto polyesters; for polyester fibers with lasting antimicrobial and/or hygroscopic properties)
- IT **Collagens**, uses  
(graft polymers, with bactericides, monomers and polyesters; for polyester fibers with lasting antimicrobial and/or hygroscopic properties)
- IT 79-41-4DP, Methacrylic acid, graft polymers with **collagens**, monomers, bactericides and polyesters 868-77-9DP, 2-Hydroxyethyl methacrylate, graft polymers with **collagens**, monomers, bactericides and polyesters 2867-47-2DP, Dimethylaminoethyl methacrylate, graft polymers with **collagens**, monomers, bactericides and polyesters 6498-81-3DP, graft polymers with **collagens**, monomers, bactericides and polyesters 7398-69-8DP, graft polymers with **collagens**, monomers and polyesters 7417-99-4DP, graft polymers with **collagens**, monomers, bactericides and polyesters 9012-76-4DP, Chitosan, graft polymers with **collagens**, monomers and polyesters 25852-47-5DP, graft polymers with **collagens**, monomers, bactericides and polyesters 41637-38-1DP, graft polymers with **collagens**, monomers, bactericides and polyesters 52234-82-9DP, graft polymers with **collagens**, monomers, bactericides and polyesters 118216-85-6DP, graft polymers with **collagens**, monomers, bactericides and polyesters 174305-40-9DP, graft polymers with **collagens**, monomers and polyesters  
(for polyester fibers with lasting antimicrobial and/or hygroscopic properties)

L40 ANSWER 10 OF 31 HCA COPYRIGHT 2004 ACS on STN

123:179528 Glycosaminoglycan-synthetic polymer conjugates. Rhee, Woonza M.; Berg, Richard A. (Collagen Corp., USA). Can. Pat. Appl. CA 2134745 AA 19950504, 59 pp. (English). CODEN: CPXXEB. APPLICATION: CA 1994-2134745 19941031. PRIORITY: US 1993-146843 19931103.

AB Pharmaceutically acceptable, nonimmunogenic compns. are formed by covalently binding glycosaminoglycans or derivs. thereof, to hydrophilic synthetic polymers via specific types of chem. bonds to provide biocompatible conjugates. Useful glycosaminoglycans include hyaluronic acid, the chondroitin sulfates, keratan sulfate, ~~chitin~~ and heparin, each of which is chem. derivatized to react with a hydrophilic synthetic polymer. The conjugate comprising a glycosaminoglycan covalently bound to a hydrophilic synthetic

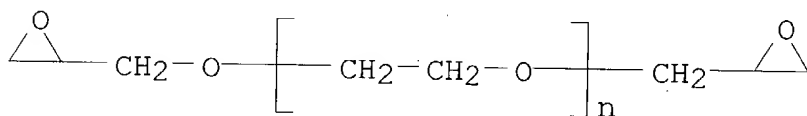
polymer may be further bound to collagen to form a three component conjugate having different properties. The hydrophilic synthetic polymer may be polyethylene glycol and derivs. thereof having an av. mol. wt. over a range of from about 100 to about 100,000. The compns. may include other components such as fluid, pharmaceutically acceptable carriers to form injectable formulations, and/or biol. active proteins such as growth factors or cytokines. The conjugates of the invention generally contain large amts. of water when formed. The conjugates can be dehydrated to form a relatively solid implant for use in hard tissue augmentation. The dehydrated, solid implant can further be ground into particles which can be suspended in a non-aq. fluid and injected into a living being (preferably human) for soft tissue augmentation. Once in place, the solid implants or particles rehydrate and expand in size approx. three- to five-fold.

IT 26403-72-5P

(glycosaminoglycan-synthetic polymer conjugates)

RN 26403-72-5 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-(oxiranylmethyl)-.omega.-(oxiranylmethoxy)- (9CI) (CA INDEX NAME)



IC ICM C07K015-20

ICS C07K017-08; C08B037-00; A61L027-00; A61K047-48; A61K037-66; A61K037-36; A61K031-715

CC 63-6 (Pharmaceuticals)

IT 1398-61-4DP, Chitin, reaction products with PEG derivs.

9004-61-9DP, Hyaluronic acid, reaction products with PEG derivs.

9005-49-6DP, Heparin, reaction products with PEG derivs.

9012-76-4DP, Chitosan, reaction products with PEG derivs.

9056-36-4DP, Keratan sulfate, reaction products with PEG derivs.

24967-93-9DP, Chondroitin sulfate A, reaction products with PEG derivs.

24967-94-0DP, Dermatan sulfate, reaction products with PEG derivs.

25322-46-7DP, Chondroitin sulfate C, reaction products with PEG derivs.

25322-68-3DP, derivs., reaction products with glycosaminoglycans

26403-72-5P 62066-14-2DP, reaction products with glycosaminoglycans

122375-06-8P 123502-57-8P

151709-76-1P 154467-38-6DP, reaction products with glycosaminoglycans

(glycosaminoglycan-synthetic polymer conjugates)

L40 ANSWER 11 OF 31 HCA COPYRIGHT 2004 ACS on STN

122:64467 manufacture of artificial blood vessels with fiber substances and insoluble **collagens**. Noitsushiki, Yasuharu; Myata,

Teruo; Iwasaki, Tooru; Ito, Hiroshi (Koken Kk, Japan). Jpn. Kokai Tokkyo Koho JP 06285150 A2 **19941011** Heisei, 6 pp.

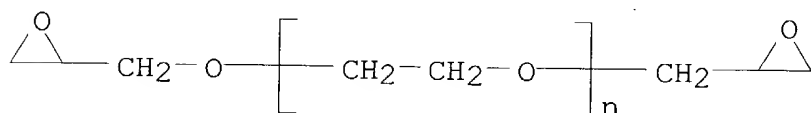
(Japanese). CODEN: JKXXAF. APPLICATION: JP 1993-98343 19930402.

AB Artificial blood vessels made with fiber substances (e.g. polyesters) are forced-filled with insol. **collagen**, treated with crosslinking agents (e.g. polyethylene glycol diglycidyl ether), and autoclaved. The products are soft and flexible and showed excellent antithrombotic activity.

IT **26403-72-5P**, Polyethylene glycol diglycidyl ether (crosslinking agent; manuf. of artificial blood vessels with fiber substances and insol. **collagens**)

RN 26403-72-5 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-(oxiranylmethyl)-.omega.-(oxiranylmethoxy)- (9CI) (CA INDEX NAME)



IC ICM A61L027-00

ICS A61F002-06

CC 63-7 (Pharmaceuticals)

ST artificial blood vessel insoluble **collagen**

IT **Collagens**, biological studies

Polyester fibers, biological studies

(manuf. of artificial blood vessels with fiber substances and insol. **collagens**)

IT Blood vessel

(artificial, manuf. of artificial blood vessels with fiber substances and insol. **collagens**)

IT **26403-72-5P**, Polyethylene glycol diglycidyl ether

(crosslinking agent; manuf. of artificial blood vessels with fiber substances and insol. **collagens**)

L40 ANSWER 12 OF 31 HCA COPYRIGHT 2004 ACS on STN

121:303002 Silk **fibroin**- and polymer-containing hydrophilic

antistatic finishes for fabrics. Otoi, Kyoshi; Yamamoto, Atsushi;

Sano, Junji; Nakamura, Isamu; Yoshitome, Hideo; Shimano, Yasunao;

Murakami, Shuichi; Umezawa, Yoshihiro (Kanebo Ltd, Japan; Kanebo

Kenshi Kyobijin Kk; Komatsu Seiren Co). Jpn. Kokai Tokkyo Koho JP

06158545 A2 **19940607** Heisei, 14 pp. (Japanese). CODEN:

JKXXAF. APPLICATION: JP 1992-322714 19921106.

AB Compns. contg. silk **fibroin**, vinyl monomers contg.

polyoxyalkylene groups, vinyl monomers contg. OH, CO<sub>2</sub>H, amino,

sulfo, and/or phosphate groups, and aziridine derivs. are applied to fabrics and cured to give hydrophilic antistatic finishes.

Polyester fabric was treated with an aq. compn. contg. silk

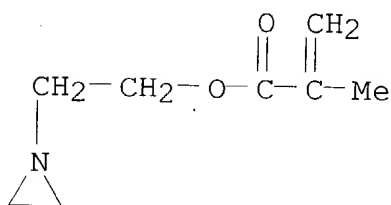


**fibroin**, H<sub>2</sub>C:CM<sub>2</sub>CO<sub>2</sub>(CH<sub>2</sub>CH<sub>2</sub>O)<sub>14</sub>CO<sub>2</sub>Me:CH<sub>2</sub>, methacrylic acid, PAZ 33, and V 50, squeezed, steamed, washed, dried, and set to give a fabric showing good hydrophilicity and antistatic properties even after 20 launderings.

IT **6498-81-3D**, 2-Aziridinoethyl methacrylate, polymers  
**25852-47-5D**, Polyethylene glycol dimethacrylate, polymers  
**26570-48-9D**, Polyethylene glycol diacrylate, polymers  
 (in antistatic hydrophilic finishes for polyester fabrics)

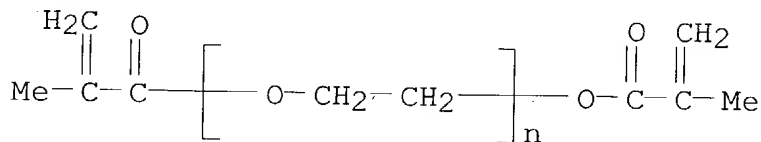
RN 6498-81-3 HCA

CN 2-Propenoic acid, 2-methyl-, 2-(1-aziridinyl)ethyl ester (9CI) (CA INDEX NAME)



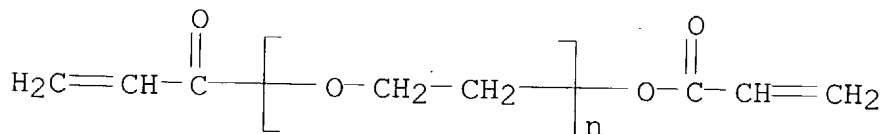
RN 25852-47-5 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-(2-methyl-1-oxo-2-propenyl)-.omega.-[(2-methyl-1-oxo-2-propenyl)oxy]- (9CI) (CA INDEX NAME)



RN 26570-48-9 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-(1-oxo-2-propenyl)-.omega.-[(1-oxo-2-propenyl)oxy]- (9CI) (CA INDEX NAME)



IC ICM D06M015-15

ICS D06M015-27

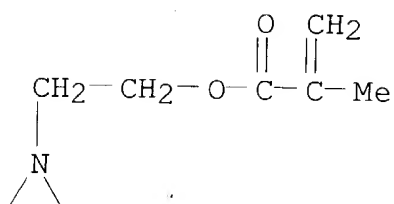
ICA C08F289-00

CC 40-9 (Textiles and Fibers)

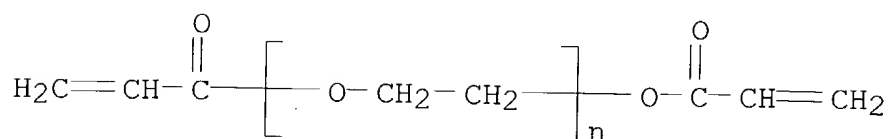
Section cross-reference(s): 42

ST silk **fibroin** antistatic hydrophilicity fabric;  
 polyoxyethylene methacrylate antistatic hydrophilicity fabric;  
 aziridine deriv antistatic hydrophilicity fabric; wettability finish

- polyester fabric; antistatic finish polyester fabric; polyester fabric antistatic hydrophilicity; hydrophilicity finish polyester fabric; carboxy polymer antistatic hydrophilicity fabric
- IT Polyester fibers, uses  
(fabrics; antistatic hydrophilic finishes contg. silk **fibroins** and vinyl polymers for)
- IT **Fibroins**  
(in antistatic hydrophilic finishes for polyester fabrics)
- IT Coating materials  
(antistatic, silk **fibroin**-vinyl polymer compns. on polyester fabrics)
- IT Antistatic agents  
(coatings, silk **fibroin**-vinyl polymer compns. on polyester fabrics)
- IT 79-10-7D, Acrylic acid, polymers 79-41-4D, Methacrylic acid, polymers **6498-81-3D**, 2-Aziridinoethyl methacrylate, polymers **25852-47-5D**, Polyethylene glycol dimethacrylate, polymers **26570-48-9D**, Polyethylene glycol diacrylate, polymers 124586-64-7D, polymers 579469-62-8, PAZ 33  
(in antistatic hydrophilic finishes for polyester fabrics)
- L40 ANSWER 13 OF 31 HCA COPYRIGHT 2004 ACS on STN
- 115:210172 Water- and oil-repellent treatment agent for silk and other fabrics. Allewaert, Kathy; Fieuws, Francesca; Coppens, Dirk; Nagase, Makoto (Minnesota Mining and Manufacturing Co., USA). Eur. Pat. Appl. EP 438886 A1 **19910731**, 9 pp. DESIGNATED STATES: R: BE, CH, DE, FR, GB, IT, LI. (English). CODEN: EPXXDW. APPLICATION: EP 1990-313593 19901213. PRIORITY: JP 1989-334621 19891222.
- AB The fibers are waterproofed and oilproofed using a mixt. of fluoro compd., aziridine compd., and a metal alcoholate or ester. The treatment temp. is typically .ltoreq.90.degree.. Thus, 100% silk was dipped in a soln. contg. 65:35 C8F17SO2N(CH3)CH2CH2O2CC(CH3):CH2-C18H37O2CC(CH3):CH2 copolymer 10, trimethylolpropanetris[3-(1-aziridinyl)propionate] 1, and Zr butyrate 3% in trichloroethane and dild. 20 fold with mineral spirit, squeezed, and dried at 80.degree. to give a fabric having the highest rating for water resistance and oil resistance no. 4 (by AATCC-118-1981).
- IT **6498-81-3**  
(waterproofing and oilproofing soln. contg. metal alcoholate, fluoro compd. and, for fabrics)
- RN 6498-81-3 HCA
- CN 2-Propenoic acid, 2-methyl-, 2-(1-aziridinyl)ethyl ester (9CI) (CA INDEX NAME)



- IC ICM D06M015-277  
ICS D06M013-144; D06M013-224; D06M013-48; D06M013-513  
CC 40-9 (Textiles and Fibers)  
IT Cannabidaceae  
Cannabis  
Cannabis sativa  
Cotton  
Leather  
Silk  
Wool  
Rayon, uses and miscellaneous  
(waterproofing and oilproofing of, mixt. for)
- IT 51-18-3 1072-66-8, 1-Aziridinepropanenitrile 2271-93-4  
3891-29-0, Octadecylethyleneurea 4853-84-3 **6498-81-3**  
7417-99-4 52234-82-9 57116-43-5 57116-46-8 64265-57-2  
125687-20-9 137053-35-1 137088-53-0  
(waterproofing and oilproofing soln. contg. metal alcoholate,  
fluoro compd. and, for fabrics)
- L40 ANSWER 14 OF 31 HCA COPYRIGHT 2004 ACS on STN  
111:83871 Cosmetics for massage containing water-insoluble polymer  
granules. Mori, Kenji (Kanebo, Ltd., Japan). Jpn. Kokai Tokkyo  
Koho JP 63211206 A2 **19880902** Showa, 5 pp. (Japanese).  
CODEN: JKXXAF. APPLICATION: JP 1987-45009 19870226.
- AB Cosmetics contg. polymeric granules are prepd. which are esp. useful  
in massage. The wt. ratio of the polymer granules to water ranges  
from 1:5 to 1:50. The diam. of the granules are 0.1-1.0 mm. These  
granules are soft, elastic, and suitable for skin conditioning.  
Thus, a massage cream was prepd. by mixing **fibroin**-acrylic  
acid-polyethylene glycol diacrylate graft copolymer 70 and  
octyldodecyl myristate 30 parts by wt.
- IT **26570-48-9DP**, polymers with **fibroin** and acrylic  
acid  
(manuf. of, for massage cream)
- RN 26570-48-9 HCA  
CN Poly(oxy-1,2-ethanediyl), .alpha.-(1-oxo-2-propenyl)-.omega.-[(1-oxo-  
2-propenyl)oxy]- (9CI) (CA INDEX NAME)



IC ICM A61K007-00

CC 62-4 (Essential Oils and Cosmetics)

IT **Fibroins**

(reaction products, with acrylic acid and PEG diacrylate, manuf. of, for massage cream)

IT 79-10-7DP, 2-Propenoic acid, polymers with **fibroin** and polyethylene glycol diacrylate 9086-70-8P, Acrylic acid-starch graft copolymer **26570-48-9DP**, polymers with **fibroin** and acrylic acid

(manuf. of, for massage cream)

L40 ANSWER 15 OF 31 HCA COPYRIGHT 2004 ACS on STN

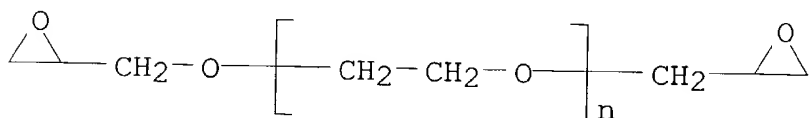
111:45215 Biodegradable antiadhesive membrane. Miyata, T.; Furuse, M.; Noishiki, Y.; Yamane, Y. (Japan Biomed. Mater. Res. Cent., Tokyo, Japan). Jinko Zoki, 18(1), 93-6 (Japanese) **1989**. CODEN: JNZKA7. ISSN: 0300-0818.

AB A biodegradable antiadhesive membrane with slow release of heparin was developed. It showed a perfect antiadhesive property on the large intestine surface in an animal study. Four months after implantation, the membrane was already absorbed and the wound surface was covered with mesothelial cells. Human amnion was crosslinked with a polyepoxy compd. after the impregnation of protamine sulfate into its **collagen** matrix, and was heparinized ionically in heparin soln. The deposition of fibrin on a wound surface leads to the formation of cellulofibrous adhesion tissue. Heparin which inhibits the pptn. of fibrin is effective in preventing the adhesion. As an antiadhesive membrane for soft tissue, antiadhesive property and no interference on wound healing after the prevention of the adhesion were required.

IT **26403-72-5D**, Polyethylene glycol diglycidyl ether, reaction products with **collagen** and heparin  
(biodegradable antiadhesive membrane, for wound healing)

RN 26403-72-5 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-(oxiranylmethyl)-.omega.-(oxiranylmethoxy)- (9CI) (CA INDEX NAME)



- CC 63-7 (Pharmaceuticals)  
ST antiadhesive membrane biodegradable; heparin **collagen**  
membrane tissue  
IT **Collagens**, compounds  
(reaction products, with epoxide and heparin, for wound healing)  
IT Protamines  
(sulfates, amnion crosslinked with epoxide after impregnation  
into **collagen** matrix of, for heparin-contg.  
biodegradable antiadhesive membrane in wound healing)  
IT 9005-49-6, Heparin, biological studies  
(biodegradable antiadhesive membrane for slow release of,  
**collagen**-epoxide compd. in, for wound healing)  
IT 26403-72-5D, Polyethylene glycol diglycidyl ether, reaction  
products with **collagen** and heparin  
(biodegradable antiadhesive membrane, for wound healing)

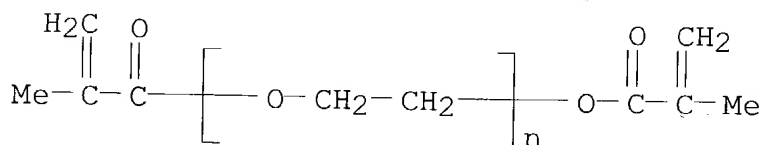
L40 ANSWER 16 OF 31 HCA COPYRIGHT 2004 ACS on STN

110:24824 Ultrafine particulated polymer latex and composition  
containing the same. Morita, Hiroshi; Hirota, Eiichi; Ishizaki,  
Yasuo (Lion Corp., Japan). Eur. Pat. Appl. EP 273605 A2  
19880706, 128 pp. DESIGNATED STATES: R: AT, BE, CH, DE,  
ES, FR, GB, IT, LI, NL, SE. (English). CODEN: EPXXDW.  
APPLICATION: EP 1987-310673 19871203. PRIORITY: JP 1986-290839  
19861206; JP 1986-290840 19861206; JP 1986-290841 19861206; JP  
1986-290842 19861206; JP 1986-290843 19861206; JP 1986-290844  
19861206; JP 1986-290845 19861206; JP 1986-290846 19861206; JP  
1987-76037 19870331; JP 1987-102731 19870424; JP 1987-102732  
19870424; JP 1987-102733 19870424; JP 1987-102734 19870424; JP  
1987-102735 19870424; JP 1987-102736 19870424; JP 1987-102737  
19870424; JP 1987-149980 19870615; JP 1987-149982 19870615; JP  
1987-149983 19870615.

AB The title polymer based on unsatd. monomers having an av. size <100  
nm, a crosslinked structure, and glass transition temp. (Tg) lower  
than calcd. by wt. fraction method gives a film having excellent  
transparency, smoothness, tack, water resistance, and mech.  
strength. Polymer particle properties are dependent on the  
surfactant used. The latex is useful as a component in paints,  
adhesives, binder, additive for hydraulic inorg. material, fiber  
processing, reinforcement for optical glass fiber, electroconductive  
film, paper making, and photosensitive compns. Emulsion polymg. Et  
acrylate 75, Me methacrylate 75, and N-methylolacrylamide 4.5 parts  
at 60.degree. in H2O and in the presence of 1:1 glycine chloride  
betaine ester of polyoxyethylene octylphenyl ether-polyoxyethylene  
and initiator polyoxypropylene dimethacrylate mixt. gave a polymer  
(I) latex having av. size 55 nm and Tg 23.degree.. I films had  
transparency (haze value) 2.3 and tensile strength at break 165  
kg/cm2. I films contg. 350 mesh Cu powder and laminated to  
polyester base films gave laminates (10 .mu.m elec. conductive

layer) having av. resistivity (SR152301)  $9.5 \times 10^{-3}$   $\Omega \cdot \text{cm}$  and shielding effect (TR4172) 71 dB.

- IT **25852-47-5**, Polyoxyethylene dimethacrylate  
(emulsifying agent, in polymn. of crosslinked ultrafine particle latex)
- RN 25852-47-5 HCA
- CN Poly(oxy-1,2-ethanediyl), .alpha.-(2-methyl-1-oxo-2-propenyl)-.omega.-[(2-methyl-1-oxo-2-propenyl)oxy]- (9CI) (CA INDEX NAME)

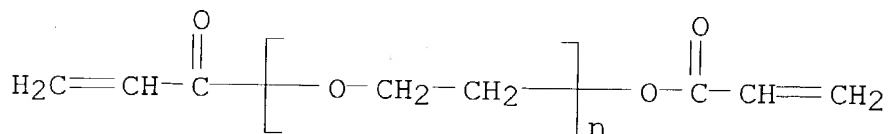


- IC ICM C08F002-22
- ICS C09D003-74; D04H001-64; G03G009-08; C09J003-14; D21H003-38; G03F007-10; G11B005-62; C04B024-26
- CC 37-6 (Plastics Manufacture and Processing)  
Section cross-reference(s): 38, 40, 42, 43, 57, 74
- IT Textiles  
(polyester-wool, nonwoven, finishes for, ultrafine particle latex)
- IT **25852-47-5**, Polyoxyethylene dimethacrylate 84069-98-7  
87003-89-2, Polyoxyethylene polyoxypropylene dimethacrylate  
111846-51-6 118087-87-9 118087-89-1 118145-44-1 118145-45-2  
118145-46-3 118145-47-4 118175-46-5 118200-88-7 118200-89-8  
118216-85-6 118216-86-7 118216-88-9  
(emulsifying agent, in polymn. of crosslinked ultrafine particle latex)
- L40 ANSWER 17 OF 31 HCA COPYRIGHT 2004 ACS on STN
- 110:9691 Grafting of fibers with vinyl compounds by irradiation using oxygen absorbers. Yamagata, Shoei; Akiyama, Katsuo; Saito, Susumu; Sasaki, Yukiya; Sugiyama, Mitsuo; Ametani, Kazuo; Sawai, Takeshi (Japan). Jpn. Kokai Tokkyo Koho JP 63196775 A2 **19880815** Showa, 3 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1987-24041 19870204.
- AB In the title grafting, various functional properties are imparted to the fibers by impregnating fibers with vinyl compds., sealing the fibers in an air-nonpermeable container contg. O absorbers, and then exposing the fibers to irradiation. Cotton was impregnated with aq. 30% vinylphosphonate oligomer, dried, sealed in a container of PVC/polyamide laminate contg. an O absorber, kept 24 h, and exposed to .gamma. rays at total dose 1 Mrad to give fire-resistant fibers with grafting wt. increase 17% and limiting O index 27%.
- IT **26570-48-9DP**, Polyethylene glycol diacrylate, polymers with polyester fibers, graft

(antistatic, manuf. of)

RN 26570-48-9 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-(1-oxo-2-propenyl)-.omega.-[(1-oxo-2-propenyl)oxy]- (9CI) (CA INDEX NAME)



IC ICM D06M014-18

CC 40-9 (Textiles and Fibers)

IT Silk

**Wool**

(grafted with vinylphosphonates, for improved fire resistance)

IT **26570-48-9DP**, Polyethylene glycol diacrylate, polymers with polyester fibers, graft (antistatic, manuf. of)

L40 ANSWER 18 OF 31 HCA COPYRIGHT 2004 ACS on STN

109:24217 Modification of silk and **wool** fibers for improved crease resistance and lightfastness. Tanaka, Yoshio; Ban, Minoru (Agency of Industrial Sciences and Technology, Japan; Ban Senko K. K.). Jpn. Kokai Tokkyo Koho JP 62250275 A2 **19871031** Showa, 12 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1986-95394 19860423.

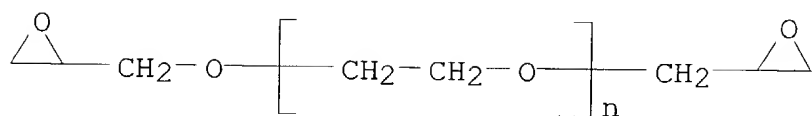
AB The title fibers with good dyeability and abrasion resistance are prep'd. by first treating **wool** or silk fibers with epoxy compds. and then grafting them with vinyl compds. A bleached silk fabric was immersed in 1N KSCN, treated with a compn. contg. 15% ethylene glycol diglycidyl ether and 5% Ph glycidyl ether, washed, and dried to give a fabric with wt. increase 15%. The fabric was then grafted with an emulsion contg. 30% styrene and 10% 2-hydroxyethyl acrylate for 30 min at 85.degree., and washed to give a fabric with graft-wt. increase 38% and good dyeability. The fabric showed friction-induced elec. charge 600 V, wrinkle recovery angle (Monsanto method) 142.degree. (dry) and 150.degree. (wet), yellowing index 16 after exposure to UV rays in a weatherometer for 300 h, vs 800, 117, 115, and 45, resp., for the untreated fabric.

IT **26403-72-5DP**, Polyethylene glycol diglycidyl ether, graft copolymers with silk or **wool**, epoxy compds. and vinyl compds.

(manuf. of, with improved crease resistance, lightfastness and abrasion resistance)

RN 26403-72-5 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-(oxiranylmethyl)-.omega.-(oxiranylmethoxy)- (9CI) (CA INDEX NAME)



- IC ICM D06M013-18  
ICS D06M014-06
- CC 40-9 (Textiles and Fibers)
- ST crease resistance grafted silk; lightfastness vinyl compd grafted silk; antistatic vinyl compd grafted silk; dyeability vinyl compd grafted silk; styrene grafted silk crease resistance; epoxy grafted silk lightfastness; **wool** grafted crease resistance; acrylate grafted crease resistance; abrasion resistance grafted silk
- IT Electric charge  
(prevention of, in silk and **wool** fibers, by grafting with epoxy compds. and vinyl compds.)
- IT Abrasion-resistant materials  
Acid-resistant materials  
Alkali-resistant materials  
Light-resistant materials  
(silk or **wool** grafted with epoxy compds. and vinyl compds. as)
- IT Textile easy-care finishing  
(creaseproofing, of silk and **wool** fabrics, by grafting with epoxy compds. and vinyl compds.)
- IT Polymerization  
(graft, of epoxy compds. and vinyl compds., on silk or **wool** fibers, for improved crease resistance and lightfastness)
- IT Textiles  
(**wool**, grafted with epoxy compds. and vinyl compds., with improved crease resistance and lightfastness and abrasion resistance)
- IT 79-39-0DP, Methacrylamide, graft copolymers with silk or **wool**, epoxy compds. and vinyl compds. 80-62-6DP, Methyl methacrylate, graft copolymers with silk or **wool**, epoxy compds. and vinyl compds. 96-09-3DP, Styrene oxide, graft copolymers with silk or **wool**, epoxy compds. and (meth)acrylate compds. 100-42-5DP, Styrene, graft copolymers with silk or **wool**, epoxy compds. and (meth)acrylate compds. 101-90-6DP, Resorcinol diglycidyl ether, graft copolymers with silk or **wool**, epoxy compds. and vinyl compds. 106-87-6DP, graft copolymers with silk or **wool**, epoxy compds. and vinyl compds. 106-89-8DP, Epichlorohydrin, graft copolymers with silk or **wool**, epoxy compds. and vinyl compds. 122-60-1DP, Phenyl glycidyl ether, graft copolymers with silk or **wool**, epoxy compds. and vinyl compds. 141-32-2DP, Butyl

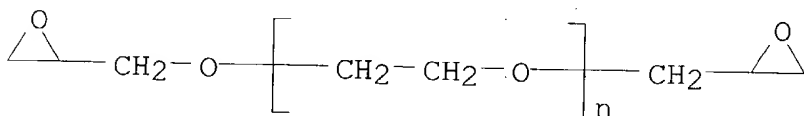


acrylate, graft copolymers with silk or **wool**, epoxy compds. and vinyl compds. 622-97-9DP, p-Methylstyrene, graft copolymers with silk or **wool**, epoxy compds. and (meth)acrylate compds. 868-77-9DP, Hydroxyethyl methacrylate, graft copolymers with silk or **wool**, epoxy compds. and vinyl compds. 1985-84-8DP, graft copolymers with silk or **wool**, epoxy compds. and vinyl compds. 2039-82-9DP, p-Bromostyrene, graft copolymers with silk or **wool**, epoxy compds. and (meth)acrylate compds. 2095-06-9DP, N,N-Diglycidylaniline, graft copolymers with silk or **wool**, epoxy compds. and vinyl compds. 2157-01-9DP, Octyl methacrylate, graft copolymers with silk or **wool**, epoxy compds. and vinyl compds. 2224-15-9DP, Ethylene glycol diglycidyl ether, graft copolymers with silk or **wool**, epoxy compds. and vinyl compds. 2274-13-7DP, N,N-Dibutylacrylamide, graft copolymers with silk or **wool**, epoxy compds. and vinyl compds. 2370-63-0DP, Ethoxyethyl methacrylate, graft copolymers with silk or **wool**, epoxy compds. and vinyl compds. 2386-87-0DP, 3,4-Epoxy cyclohexylmethyl 3,4-epoxycyclohexanecarboxylate, graft copolymers with silk or **wool**, epoxy compds. and vinyl compds. 2495-37-6DP, Benzyl methacrylate, graft copolymers with silk or **wool**, epoxy compds. and vinyl compds. 7251-90-3DP, graft copolymers with silk or **wool**, epoxy compds. and vinyl compds. 10595-06-9DP, Phenoxyethyl methacrylate, graft copolymers with silk or **wool**, epoxy compds. and vinyl compds. 13236-02-7DP, Glycerol triglycidyl ether, graft copolymers with silk or **wool**, epoxy compds. and vinyl compds. 13410-58-7DP, Hydrogenated bisphenol A diglycidyl ether, graft copolymers with silk or **wool**, epoxy compds. and vinyl compds. 13532-94-0DP, Butoxyethyl methacrylate, graft copolymers with silk or **wool**, epoxy compds. and vinyl compds. 16096-30-3DP, Propylene glycol diglycidyl ether, graft copolymers with silk or **wool**, epoxy compds. and vinyl compds. 25736-86-1DP, Polyethylene glycol monomethacrylate, graft copolymers with silk or **wool**, epoxy compds. and vinyl compds. 26403-72-5DP, Polyethylene glycol diglycidyl ether, graft copolymers with silk or **wool**, epoxy compds. and vinyl compds. 42612-27-1DP, graft copolymers with silk or **wool**, epoxy compds. and vinyl compds.  
(manuf. of, with improved crease resistance, lightfastness and abrasion resistance)

L40 ANSWER 19 OF 31 HCA COPYRIGHT 2004 ACS on STN

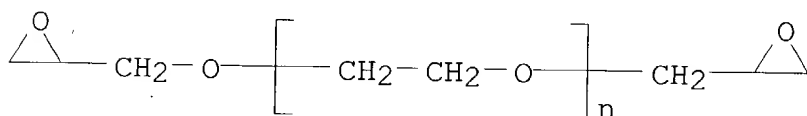
108:192800 Manufacture of antithrombogenic medical materials based on heparinized **collagen**. Noitsushiki, Yasuharu; Kodaira, Kazuhiko; Furuse, Masayasu; Miyata, Teruo (Koken Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 62038172 A2 19870219 Showa, 4 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1985-177450 19850812.

- AB The nontoxic, discoloration-free materials having excellent flexibility are prepd. using heparinized **collagen** which is prepd. by fixation of a protamine via a polyepoxy compd. on **collagen**, followed by bonding heparin to protamine. A 10% aq. protamine sulfate (pH 5.0) was injected into a mature dog carotid artery (inner diam. 3 mm, length 10 cm) free from non-**collagen** proteins and allowed to stand for 1 h under an air pressure of 100 mmHg. A 10% aq. polyethylene glycol diglycidyl ether was then injected, allowed to stand for 1 h under similar conditions. The injected soln. was removed, and the treatment repeated once. The treated artery was washed with water, immersed in 1% aq. heparin (pH 6.0) at room temp. for 1 h, washed with water, and stored in 70% EtOH to obtain an artificial blood vessel that could be bent without crack.
- IT 26403-72-5, Polyethylene glycol diglycidyl ether  
(binders, in heparinized **collagen** for flexible antithrombotic artificial blood vessel)
- RN 26403-72-5 HCA
- CN Poly(oxy-1,2-ethanediyl), .alpha.-(oxiranylmethyl)-.omega.-(oxiranylmethoxy)- (9CI) (CA INDEX NAME)



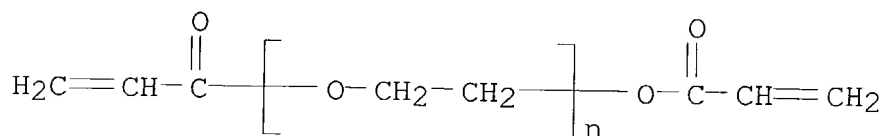
- IC ICM A61L033-00
- CC 63-7 (Pharmaceuticals)
- ST heparin **collagen** artificial blood vessel; antithrombogenic artificial blood vessel flexibility; polyoxyethylene glycidyl ether binder; protamine binder artificial blood vessel
- IT **Collagens**, biological studies  
(heparinized for flexible antithrombotic artificial blood vessels, protamine and polyethylene glycol diglycidyl ether binders in)
- IT Polyester fibers, biological studies  
(knit tubes, coated with heparinized **collagen**, for flexible antithrombotic artificial blood vessel)
- IT Blood vessel  
(artificial, heparinized **collagens** in, protamine and polyethylene glycol diglycidyl ether binders in)
- IT **Collagens**, biological studies  
(atelo-, heparinized for flexible antithrombotic artificial blood vessels, protamine and polyethylene glycol diglycidyl ether binders in)
- IT Protamines  
(sulfates, binders, in heparinized **collagen** for flexible antithrombotic artificial blood vessel)

- IT 9004-61-9, Hyaluronic acid  
(binders contg., in heparinized **collagen** for flexible antithrombotic artificial blood vessel)
- IT 26403-72-5, Polyethylene glycol diglycidyl ether  
(binders, in heparinized **collagen** for flexible antithrombotic artificial blood vessel)
- L40 ANSWER 20 OF 31 HCA COPYRIGHT 2004 ACS on STN
- 106:182718 Prosthetic materials from gelatins and **collagens** treated with crosslinking agents. Noitsushiki, Yasuharu; Kodaira, Kazuhiko; Furuse, Masayasu; Miyata, Teruo (Koken Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 62026230 A2 19870204 Showa, 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1985-163028 19850725.
- AB **Collagens** or gelatins treated with polyepoxy crosslinking agents are useful in prepg. biocompatible surgical goods. An urinary duct (inner diam. 6 mm, length 10 cm) was isolated from a dog and soaked 24 h in 0.01% Ficin to eliminate proteins other than **collagens** and washed with H<sub>2</sub>O. The duct was immersed 10 h at 30.degree. in 80 g 0.1N NaOH contg. 10 g polyethylene glycol diglycidyl ether and 10 g NaCl, washed with H<sub>2</sub>O and preserved in 70% EtOH to give an artificial blood vessel. The biocompatibility was shown.
- IT 26403-72-5, Polyethyleneglycol diglycidyl ether  
(**collagen** crosslinked with, as prosthetic material)
- RN 26403-72-5 HCA
- CN Poly(oxy-1,2-ethanediy), .alpha.-(oxiranylmethyl)-.omega.-(oxiranylmethoxy)- (9CI) (CA INDEX NAME)



- IC ICM A61K037-12  
ICS A61L027-00
- CC 63-7 (Pharmaceuticals)
- ST prosthetic **collagen** gelatin crosslinking agent
- IT Prosthetic materials and Prosthetics  
(crosslinked **collagen** and gelatin, biocompatible)
- IT **Collagens**, biological studies  
Gelatins, biological studies  
Mucopolysaccharides, biological studies  
(crosslinked, as prosthetic material)
- IT Medical goods  
(antithrombogenic, prepn. of, crosslinked gelatin and **collagen** for)
- IT Blood vessel  
(artificial, from urinary duct of dog, crosslinking of

- IT collagen in manuf. of)  
 IT Organ  
 Skin.  
 (artificial, prepn. of, crosslinked collagen and gelatin for)  
 IT Collagens, biological studies  
 (atelo-, crosslinked, as prosthetic material)  
 IT 26403-72-5, Polyethyleneglycol diglycidyl ether  
 (collagen crosslinked with, as prosthetic material)
- L40 ANSWER 21 OF 31 HCA COPYRIGHT 2004 ACS on STN  
 100:179969 Air freshener gels. (Kanebo, Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 59025754 A2 19840209 Showa, 6 pp. (Japanese).  
 CODEN: JKXXAF. APPLICATION: JP 1982-136503 19820804.
- AB Air freshener gels contain acrylic copolymers and one or more stabilizers selected from aliph. alcs., arom. carboxylic acids or their salts, hydroxyalkylcarboxylic acids or their salts, hydroxyarylcarboxylic acid salts or esters, and thiourea [62-56-6]. The gels have a uniform, sustained odor release and are insensitive to temp. changes. Thus, an air freshener contained gelatin 2.0, perfume 5.0, fibroin-Na acrylate copolymer 1.5, glycerin [56-81-5] 5.0, and H2O 86.5% by wt.
- IT 26570-48-9D, polymer with sodium acrylate and fibroin  
 (air freshener gels contg.)
- RN 26570-48-9 HCA  
 CN Poly(oxy-1,2-ethanediyl), .alpha.-(1-oxo-2-propenyl)-.omega.-[(1-oxo-2-propenyl)oxy]- (9CI) (CA INDEX NAME)



- IC A61L009-04  
 ICA A61K007-46; C08L031-02; C09K003-00  
 CC 62-5 (Essential Oils and Cosmetics)  
 IT Fibroins  
 (polymers with sodium acrylate, air freshener gels contg.)  
 IT 25549-84-2D, polymers with fibroin 26570-48-9D,  
 polymer with sodium acrylate and fibroin  
 (air freshener gels contg.)

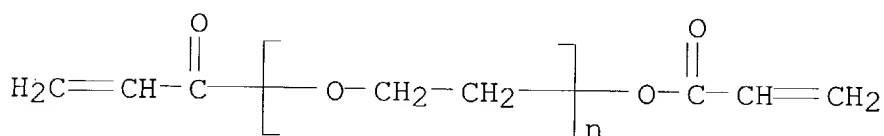
- L40 ANSWER 22 OF 31 HCA COPYRIGHT 2004 ACS on STN  
 100:179961 Polymers for facial mask mixes. (Kanebo, Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 59013706 A2 19840124 Showa, 10 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1982-122443 19820713.

AB Improved facial masks contain sol. alginic acid salts, H<sub>2</sub>O-sol. alk. earth metal salts, and polymers derived from **fibroins**, nonionic monomer crosslinking agents, and anionic monomers or nonionic monomers with an ethylene group at one terminal. This powder was readily dispersed in H<sub>2</sub>O to form a gel, spread smoothly on the skin, dried rapidly, and was easily peeled off. A **fibroin**-Na acrylate-polyethylene glycol diacrylate copolymer was prepd., and a powder was made from 10 parts of the polymer, 35 parts Na alginate [9005-38-3], and 55 parts CaSO<sub>4</sub>.

IT **26570-48-9D**, polymer with **fibroin** and sodium acrylate  
(face mask gel mixes contg. sodium alginate and alk. earth salts and)

RN 26570-48-9 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-(1-oxo-2-propenyl)-.omega.-[(1-oxo-2-propenyl)oxy]- (9CI) (CA INDEX NAME)



IC A61K007-00

CC 62-4 (Essential Oils and Cosmetics)

ST face mask polymer alginate gel; acrylate **fibroin** polymer  
face mask

IT **Fibroins**

(polymer with polyethylene glycol diacrylate and sodium acrylate, face mask gel mixes contg. sodium alginate and alk. earth salts and)

IT Cosmetics

(face masks, mixes for gels for, acrylate-**fibroin** copolymers and sodium alginate and alk. earth salts of)

IT 9005-38-3

(face mask gel mixes contg. acrylate-**fibroin** copolymer and alk. earth salts and)

IT 7487-88-9, biological studies 7778-18-9 7786-30-3, biological studies 10043-52-4, biological studies

(face mask gel mixes contg. acrylate-**fibroin** copolymer and sodium alginate and)

IT 7446-81-3D, polymer with **fibroin** and polyethylene glycol diacrylate **26570-48-9D**, polymer with **fibroin** and sodium acrylate

(face mask gel mixes contg. sodium alginate and alk. earth salts and)

99:163842 Emulsified cosmetics containing grafted **fibroins**.  
 (Kanebo, Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 58105907 A2  
**19830624** Showa, 13 pp. (Japanese). CODEN: JKXXAF.  
 APPLICATION: JP 1981-204255 19811216.

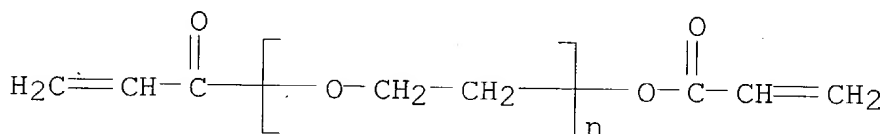
AB Emulsified cosmetics contg. **fibroins** grafted with acrylic polymers using crosslinking agents such as polyethylene glycol diacrylate are stable and maintain moisture when applied to the skin. Thus, discarded silk was washed, treated with Ca nitrate, dild. with water, and treated with acrylic acid and polyethylene glycol diacrylate in the presence of ammonium persulfate and neutralized with NaOH to obtain a graft polymer. A cream was prepd. by combining the grafted polymer 1, di-Na edetate 0.1, water 88.9, olive oil 5 and octyldodecyl myristate 5 parts. Properties of the cream were described.

IT **26570-48-9D**, polymers with acrylic acid and **fibroin**, sodium salts

(graft, emulsified cosmetics contg.)

RN 26570-48-9 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-(1-oxo-2-propenyl)-.omega.-[(1-oxo-2-propenyl)oxy]- (9CI) (CA INDEX NAME)



IC A61K007-00

CC 62-4 (Essential Oils and Cosmetics)

ST emulsion cosmetic graft **fibroin**; acrylic polymer **fibroin** cosmetic

IT **Fibroins**

(graft acrylic polymers, emulsified cosmetics contg.)

IT Cosmetics

(emulsions, acrylic polymer-grafted **fibroins** in)

IT 79-06-1D, polymers with acrylic acid and **fibroin** and methylene bis(acrylamide), sodium salts 79-10-7D, polymers with glycol diacrylates and **fibroin**, sodium salts 79-41-4D, polymers with acrylic acid and **fibroin** and glycol dimethacrylates, sodium salts 97-90-5D, polymers with acrylic acid and **fibroin** and methacrylic acid, sodium salts 100-42-5D, polymers with acrylic acid and divinylbenzene and **fibroin**, sodium salts 106-90-1D, polymers with acrylic acid and **fibroin**, sodium salts 108-05-4D, polymers with acrylic acid and **fibroin** and hexanediol diacrylate, sodium salts 109-17-1D, polymers with **fibroin** and methacrylic acid, sodium salts 110-26-9D, polymers with acrylates and **fibroin**, sodium salts 868-77-9D, polymers with acrylic

acid and ethylene glycol dimethacrylate and **fibroin**, sodium salts 1321-74-0D, polymers with acrylic acid and **fibroin** and styrene, sodium salts 13048-33-4D, polymers with acrylates and **fibroin**, sodium salts 17831-71-9D, polymers with acrylic acid and **fibroin**, sodium salts **26570-48-9D**, polymers with acrylic acid and **fibroin**, sodium salts 87539-23-9D, polymers with acrylic acid and **fibroin**, sodium salts  
(graft, emulsified cosmetics contg.)

L40 ANSWER 24 OF 31 HCA COPYRIGHT 2004 ACS on STN

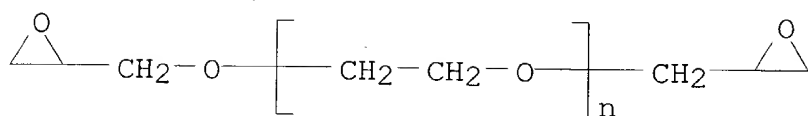
98:180756 Water absorbent. (Kanebo, Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 58000244 A2 **19830105** Showa, 6 pp. (Japanese).  
CODEN: JKXXAF. APPLICATION: JP 1981-96986 19810622.

AB **Fibroin**, a crosslinking monomer, and (meth)acrylic acid or its alkali metal or ammonium salt are copolymerized in (1-40):(0.1-5):(50-98) ratio in H<sub>2</sub>O, H<sub>2</sub>O-lower alc., or H<sub>2</sub>O-C<sub>5</sub>-8 hydrocarbon in the presence of persulfate. The crosslinking monomer is ethylene glycol dimethacrylate, polyethylene glycol diacrylate (I), 1,6-hexanediol diacrylate, N,N'-methylenebisacrylamide, ethylene glycol diglycidyl ether, polyethylene glycol diglycidyl ether, or glycidyl acrylate. Thus, 1 kg silk scrap was soaked in 30 L 1% Marseille soap at 98.degree. for 3 h to remove sericin and oil, and a 0.5-kg portion was dissolved in a mixt. of 2 kg 65% aq. CaCl<sub>2</sub> and 0.5 kg EtOH at 70-5.degree. during 1 h, dild. with 2 kg hot water, and desalted by a hollow fiber dialyzer. The soln. was mixed with I (d.p. 14) and acrylic acid in 19.0:1.0:80.0 ratio, dild. to 15% concn., mixed with 0.5% (NH<sub>4</sub>)<sub>2</sub>S<sub>2</sub>O<sub>8</sub> (on acrylic acid) under N, polymerized at 40.degree. for 3 h, and neutralized with alc. 50% NaOH; and the polymer was washed with 50% aq. EtOH, dried at 60.degree. in vacuo, and powd. to 100-300 .mu.. H<sub>2</sub>O absorption (1 g in 1 L H<sub>2</sub>O, filtered through a 100-mesh metal net) was 263, 261, or 248 times the initial wt. after 1 h at 25.degree., 3 days at 25.degree., or 3 wk at 60.degree., resp., and biodegradability was 34% (relative to 88% for PhNH<sub>2</sub>), compared with 294, 267, or 128 and 48% for a control without I and 125, 120, or 111 and 4% for 3:97 I-acrylic acid copolymer (no **fibroin**).

IT **26403-72-5D**, polymers with **fibroin** and acrylic acid, sodium salt **26570-48-9D**, polymers with **fibroin** and acrylic acid, sodium salt  
(absorbents, for water)

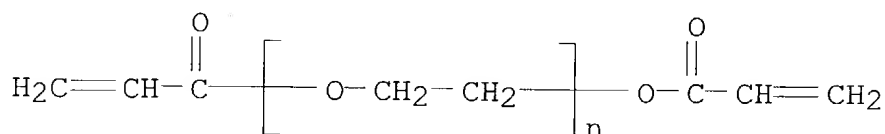
RN 26403-72-5 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-(oxiranylethyl)-.omega.-(oxiranylethoxy)- (9CI) (CA INDEX NAME)



RN 26570-48-9 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-(1-oxo-2-propenyl)-.omega.-[(1-oxo-2-propenyl)oxy]- (9CI) (CA INDEX NAME)



IC B01J020-26; C08F289-00

ICI C08F289-00, C08F220-20, C08F220-54, C08F220-32, C08F220-04

CC 38-3 (Plastics Fabrication and Uses)

ST **fibroin** sodium acrylate copolymer absorbent; glycidyl acrylate crosslinking **fibroin** copolymer; polyoxyethylene diacrylate crosslinking **fibroin** copolymer

IT Absorbents

(crosslinked **fibroin**-sodium (meth)acrylate copolymers, for water)

IT Polymerization

(of **fibroin** with sodium (meth)acrylate and crosslinking monomer)

IT **Fibroins**

(polymers with sodium (meth)acrylate, crosslinked, absorbents for water)

IT 79-10-7D, polymers with **fibroin** and polyethylene glycol diacrylate, sodium salt 79-41-4D, polymers with **fibroin** and crosslinking monomer, sodium salt 97-90-5D, polymers with **fibroin** and acrylic acid, sodium salt 106-90-1D, polymers with **fibroin** and acrylic acid, sodium salt 110-26-9D, polymers with **fibroin** and acrylic acid, sodium salt 2224-15-9D, polymers with **fibroin** and acrylic acid, sodium salt 13048-33-4D, polymers with **fibroin** and acrylic acid, sodium salt 26403-72-5D, polymers with **fibroin** and acrylic acid, sodium salt 26570-48-9D, polymers with **fibroin** and acrylic acid, sodium salt (absorbents, for water)

L40 ANSWER 25 OF 31 HCA COPYRIGHT 2004 ACS on STN

97:164254 Molding from synthetic material. Tatebayashi, Akinori (Japan). Ger. Offen. DE 3203540 A1 19820826, 29 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1982-3203540 19820203.



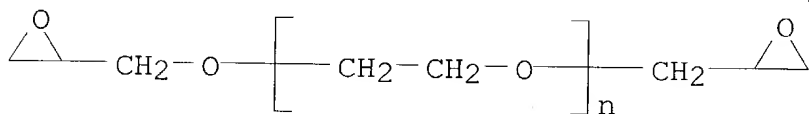
PRIORITY: JP 1981-18668 19810210; JP 1981-18669 19810210.

AB Molded articles having high surface hardness, e.g. abrasion-resistant lenses, are prep'd. by coating a thermoplastic film with a hardenable, scratch-resistant surface layer, cutting the film to the desired shape, placing the cut film in a mold cavity with the scratch-resistant surface facing the mold wall, and injecting a molten resin into the mold to intimately join the film and resin and give the desired molded article. Thus, a polycarbonate film was extruded to a uniform thickness of 100 .mu., cleaned in a cleaning bath, coated with an acrylic primer, dried, coated on 1 side with a hardenable material comprising a partially hydrolyzed mixt. of methyltrimethoxysilane, tetraethoxysilane, and a deriv. having a terminal dimethylsiloxane group to a thickness of 2-10 .mu., and heated 1 h at .apprx.130.degree. to give a siloxane-coated film having a hard surface. A circular piece of the film (diam. 50 mm) was placed in a mold, and a molten polycarbonate was injected into the mold under high pressure to give a lens having no boundary or transition zone between the layers. The surface of the lens showed no abrasion when it was rubbed with metal wool.

IT 26403-72-5D, reaction products with silanes, hydrolyzed (coatings, for acrylic polymer lenses, scratch-resistant)

RN 26403-72-5 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-(oxiranylmethyl)-.omega.-(oxiranylmethoxy)- (9CI) (CA INDEX NAME)



IC B32B027-08; B29F001-10; B29D009-02

CC 38-3 (Plastics Fabrication and Uses)

IT 1760-24-3D, reaction products with polyethylene glycol diglycidyl ether and silanes, hydrolyzed 2530-83-8D, reaction products with polyethylene glycol diglycidyl ether and silanes, hydrolyzed 25265-19-4 26403-72-5D, reaction products with silanes, hydrolyzed (coatings, for acrylic polymer lenses, scratch-resistant)

L40 ANSWER 26 OF 31 HCA COPYRIGHT 2004 ACS on STN

92:112380 Ground coating composition for plastic product. Kaetsu, Isao; Kumakura, Minoru; Yoshida, Masaru; Shimaoka, Goro; Urabe, Masanobu (Mitsubishi Gas Chemical Co., Inc., Japan; Japan Atomic Energy Research Institute). Ger. Offen. DE 2922970 19791220, 15 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1979-2922970 19790606.

AB Solns. of diglycidyl ethers in org. solvents are used as primers for

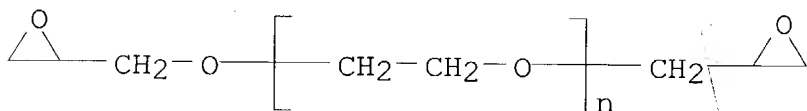
coatings on transparent plastics. Thus, Iupilon E2000 polycarbonate is dipped in a 2% soln. of bisphenol A diglycidyl ether [1675-54-3] in EtOCH<sub>2</sub>CH<sub>2</sub>OH contg. 0.05% Fluorad FC 400 fluorocarbon surfactant, baked 5 min at 110.degree., topcoated with a hydrolyzed mixt. of [3-(glycidyloxy)propyl]trimethoxysilane 1, MeSi(OMe)<sub>3</sub> 1, Si(OMe)<sub>4</sub> 1, EtOH 3, H<sub>2</sub>O 0.5, and HClO<sub>4</sub> 0.01 part, and baked 2 h at 110.degree. to give a coating with scratch resistance (steel wool, 15 cycles) excellent, abrasion resistance (ASTM D 968-51) 9.0, and crosscut adhesion 100/100, compared with excellent, 9.0, and 0/100, resp., for the coating without a primer.

IT **26403-72-5**

(primers, for coatings on transparent plastics)

RN 26403-72-5 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-(oxiranylmethyl)-.omega.-(oxiranylmethoxy)- (9CI) (CA INDEX NAME)



IC C09D003-58; C09D005-12; C08J007-16

CC 42-8 (Coatings, Inks, and Related Products)

IT 1675-54-3 **26403-72-5**

(primers, for coatings on transparent plastics)

L40 ANSWER 27 OF 31 HCA COPYRIGHT 2004 ACS on STN

92:95758 Thermosetting antifogging agents for transparent plastic moldings. Kaetsu, Isao; Kumakura, Minoru; Yoshida, Masaru; Urabe, Masanobu; Shimaoka, Goro (Japan Atomic Energy Research Institute, Japan; Nippon Kogaku K. K.; Mitsubishi Gas Chemical Co., Inc.). Jpn. Kokai Tokkyo Koho JP 54133600 **19791017** Showa, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1978-41051 19780407.

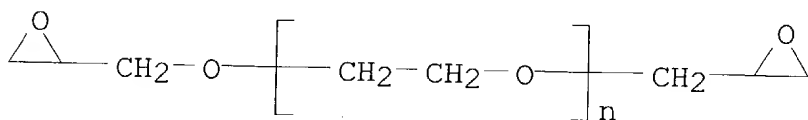
AB Mixts. of polyethylene glycol diglycidyl ether (I) and silane compds. having an aminoalkylaminoalkyl or aminoalkyl group and 2 or 3 alkoxy groups with or without an alkyl group are hydrolyzed, applied to transparent plastic moldings, and cured to form coatings having good resistance to fogging and scratching. Thus, a mixt. of I (av. d.p. 9) 10, 3-[(2-aminoethyl)amino]propyltrimethoxysilane 40, H<sub>2</sub>O 5, and EtOCH<sub>2</sub>CH<sub>2</sub>OH 50 parts was warmed at 70.degree., applied to a molding of CR 39 homopolymer [25656-90-0], and heated 2 h at 110.degree. to form a transparent coating having scratch-resistance (steel wool) rating B (A' best, C worst) and good adhesion to the substrate.

IT **26403-72-5D**, polymer with hydrolyzed aminoethylaminopropyltrimethoxysilane

(coatings, antifogging and scratch-resistant, for transparent plastics)

RN 26403-72-5 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-(oxiranylmethyl)-.omega.-(oxiranylmethoxy)- (9CI) (CA INDEX NAME)



IC C08G059-50

CC 42-10 (Coatings, Inks, and Related Products)

IT 1760-24-3D, hydrolyzed, polymer with polyethylene glycol diglycidyl ether **26403-72-5D**, polymer with hydrolyzed aminoethylaminopropyltrimethoxysilane (coatings, antifogging and scratch-resistant, for transparent plastics)

L40 ANSWER 28 OF 31 HCA COPYRIGHT 2004 ACS on STN

90:139038 Improving antistatic and hygroscopic properties of fibers or fibrous structures. Aikawa, Akira; Oguchi, Masao; Takeda, Toshihide; Kisaichi, Akio; Saito, Toshio (Kanebo, Ltd., Japan). U.S. Pat. 4,135,877, 19780123, 13 pp., (5 refs.).

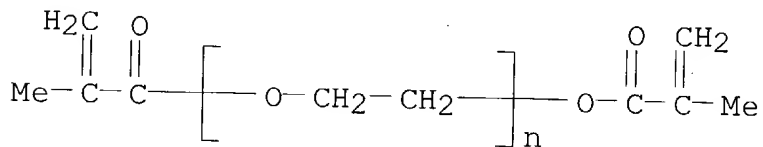
USXXAM. APPLICATION: US 1977-847037 19771031.

AB Polyamide, silk, and wool textiles were given durable antistatic and hygroscopic properties with good hand by impregnating the textile with a soln. of H<sub>2</sub>O-sol. vinyl monomer, e.g. N,N'-methylenebisacrylamide and acid, e.g. HCO<sub>2</sub>H, heating the impregnation bath to graft polymerize the monomer on the fiber, (no polymn. initiators are needed) and washing and drying the textile. The graft polymn. reaction does not substantially proceed in the absence of acid.

IT 25852-47-5D, polymer with polyamide fibers  
(graft, with improved antistatic and hygroscopic properties)

RN 25852-47-5 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-(2-methyl-1-oxo-2-propenyl)-  
.omega.-[(2-methyl-1-oxo-2-propenyl)oxy]- (9CI) (CA INDEX NAME)



IC D06M015-36

NCL 008115500

CC 39-10 (Textiles)

ST antistatic polyamide fiber graft polymn; silk antistatic hygroscopic finish; **wool** antistatic hygroscopic finish; waterproofing

textiles

IT Silk

Wool

(graft polymn. of, with water-sol. vinyl monomers, for improved antistatic and hygroscopic properties)

IT 110-26-9D, polymer with polyamide fibers 959-52-4D, polymer with polyamide fibers 25736-86-1D, polymer with polyamide fibers 25852-47-5D, polymer with polyamide fibers 26915-72-0D, polymer with polyamide fibers

(graft, with improved antistatic and hygroscopic properties)

L40 ANSWER 29 OF 31 HCA COPYRIGHT 2004 ACS on STN

87:169212 Finishing of textiles. Horiki, Seinosuke; Nakashin, Saburo (Nagoya Yukagaku Kogyo K. K., Japan). Jpn. Kokai Tokkyo Koho JP 52070196 19770610 Showa, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1975-146039 19751208.

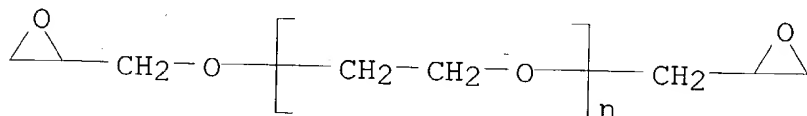
AB Fabrics, with improved hand and durability, were prepd. by impregnating wool fabrics with aq. mixts. contg. a polymer of a vinyl monomer with a quaternary ammonium salt and heat-treating the fabrics. Thus, a mixt. of Et acrylate 10.0, Me vinyl ether 6.5, Me methacrylate 10.0, 2-(trimethylammonio)ethyl methacrylate 3.5, acrylamide 5.0, azobis(isobutyronitrile) 0.5, and MeOH 65.0 parts was polymd. 6 h at the refluxing temp. to give a polymer (I) [64316-45-6]. Wool fabric was immersed in an aq. mixt. contg. 3% I to 180% pickup, dried, and heat-treated 5 min at 120.degree. to give a fabric with good hand and good resistance to washing and dry cleaning.

IT 26403-72-5

(finishing of wool fabrics with acrylic polymer salts and, for improved hand and durability)

RN 26403-72-5 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-(oxiranylmethyl)-.omega.-(oxiranylmethoxy)- (9CI) (CA INDEX NAME)



IC D06M015-36

CC 39-10 (Textiles)

ST wool fabric resin finishing; acrylate copolymer salt finish fabric; durability resin finished wool

IT Textiles

(wool, finishing of, with acrylic polymer salts, for improved hand and durability)

IT 13236-00-5 26403-72-5 27043-36-3

(finishing of wool fabrics with acrylic polymer salts

and, for improved hand and durability)  
 IT 64316-44-5D, aminated, quaternized 64316-45-6 64385-46-2D,  
 quaternized  
 (wool fabrics finished by, for improved hand and  
 durability)

L40 ANSWER 30 OF 31 HCA COPYRIGHT 2004 ACS on STN

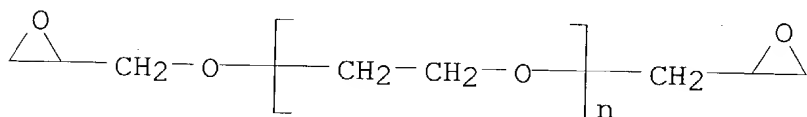
84:152036 Studies on salt-catalyzed addition reaction between silk  
**fibroin** and epoxides. VII. Sericin-fixation of raw silk  
 through the reaction with diepoxides. Shiozaki, Hideki; Tanaka,  
 Yoshio (Ind. Res. Inst. Kanagawa Prefect., Yokohama, Japan). Sen'i  
 Kako, 27(12), 701-8 (Japanese) 1975. CODEN: SNKAB2.  
 ISSN: 0037-217X.

AB The fixation of sericin was accomplished completely at a relatively  
 low temp. in a short time in KSCN [333-20-0] catalyst-contg. C2Cl4  
 soln. of low polyol tri- or diglycidyl ether. In iso-PROH soln.,  
 only partial fixation was reached after 180 min. Sericin fixation  
 imparted a soft hand to raw silk without affecting its  
 load-elongation properties.

IT 26403-72-5  
 (crosslinking agents, for raw silk)

RN 26403-72-5 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-(oxiranylmethyl)-.omega.-  
 (oxiranylmethoxy)- (9CI) (CA INDEX NAME)



CC 39-10 (Textiles)

IT 101-90-6 2224-15-9 2425-79-8 13236-02-7 26403-72-5  
 (crosslinking agents, for raw silk)

L40 ANSWER 31 OF 31 HCA COPYRIGHT 2004 ACS on STN

69:63563 Photohardenable thermoplastic relief printing plates. Cohen,  
 Abraham B.; Webers, Vincent J. (du Pont de Nemours, E. I., and Co.).  
 U.S. US 3395014 19680730, 8 pp. (English). CODEN:  
 USXXAM. APPLICATION: US 1963-286180 19630607.

AB An unsubbed poly(ethylene terephthalate) film 0.001-in. thick was  
 coated with 0.011 in. of a soln. prepd. from 150 g. of a 30% soln.  
 in Me2CO of cellulose acetate butyrate, 40 g. poly(ethylene glycol  
 diacrylate), and 25 ml. of a 1% soln. of 2-ethyl-9,10-anthraquinone  
 in Me2CO. A piece of white pressed, cotton-wool felt  
 0.032-in. thick was blackened with a 5% dispersion of carbon black,  
 prepd. by mixing equal parts of a 10% suspension of carbon black in  
 iso-PROH with a 10% soln. of cellulose acetate butyrate in Me2CO.  
 The blackened side of the felt was laminated (after drying) to the

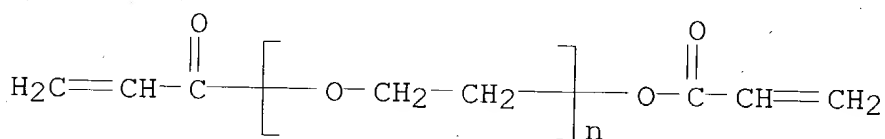
polymerizable coating prep'd. above by pressing at 80.degree.. The laminated element was then exposed through the film and a photographic negative with a Hg-arc lamp. A sample of the exposed film was sealed, felt side down, to the bottom of a Buchner funnel. This was then heated and a vacuum applied to the funnel. The thermoplastic material in the underexposed areas flowed into the porous support leaving a relief image in the coated stratum.

IT 26570-48-9

(printing plates from cellulose acetate butyrate and, for three-dimensional images)

RN 26570-48-9 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-(1-oxo-2-propenyl)-.omega.-[(1-oxo-2-propenyl)oxy]- (9CI) (CA INDEX NAME)



NCL 096028000

CC 74 (Radiation Chemistry, Photochemistry, and Photographic Processes)

IT 26570-48-9

(printing plates from cellulose acetate butyrate and, for three-dimensional images)

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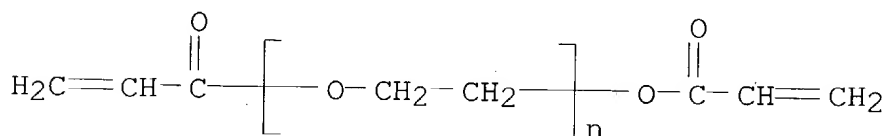
L41 ANSWER 1 OF 3 HCA COPYRIGHT 2004 ACS on STN

141:320084 Polymer gels for encapsulation of biological materials. Hubbell, Jeffrey A.; Pathak, Chandrashekar P.; Sawhney, Amarpreet S.; Desai, Neil P.; Hossainy, Syed F. A. (USA). U.S. Pat. Appl. Publ. US 2004195710 A1 20041007, 34 pp., Cont.-in-part of U.S. Ser. No. 811,901, abandoned. (English). CODEN: USXXCO. APPLICATION: US 2004-761180 20040120. PRIORITY: US 1990-598880 19901015; US 1992-843485 19920228; US 1992-870540 19920420; US 1992-958870 19921007; US 1995-484160 19950607; US 1997-783387 19970113; US 2001-811901 20010319.

AB This invention provides novel methods for the formation of biocompatible membranes around biol. materials using photopolymn. of water sol. mols. The membranes can be used as a covering to encapsulate biol. materials or biomedical devices, as a "glue" to cause more than one biol. substance to adhere together, or as carriers for biol. active species. Several methods for forming these membranes are provided. Each of these methods utilizes a polymn. system contg. water-sol. macromers, species, which are at once polymers and macromols. capable of further polymn. The

macromers are polymd. using a photoinitiator (such as a dye), optionally a cocatalyst, optionally an accelerator, and radiation in the form of visible or long wavelength UV light. The reaction occurs either by suspension polymn. or by interfacial polymn. The polymer membrane can be formed directly on the surface of the biol. material, or it can be formed on material, which is already encapsulated. For example, the microcapsule interfacial polymn. method was used to form membrane around alginate-poly(L-lysine) (PLL) microcapsules contg. islets. Alginate-PLL coacervated microspheres, contg. one or two human pancreatic islets each, were suspended in a 1.1% CaCl<sub>2</sub> soln. and aspirated free of excess soln. to obtain a dense plug of microspheres. A soln. of ethyl eosin (0.04% wt./vol.) was prepd. in a 1.1% CaCl<sub>2</sub> soln. and filter-sterilized. The plug of microspheres was suspended in 10 mL of the eosin soln. for 2 min to allow uptake of the dye and excess dye. was removed. A soln. of PEG 18.5 tetraacrylate (2 mL; 23% wt./vol.) contg. 100 L of a 3.5% wt./vol. soln. of triethanolamine in HEPES buffered saline was added to 0.5 mL of those microspheres. The microspheres were exposed to argon ion laser light for 30 s with periodic agitation, washed with calcium soln. and the process was repeated in order to further stabilize the coating. A static glucose stimulation test (SGS) confirmed the vitality and functionality of the islets.

IT **26570-48-9P**, Polyethylene glycol diacrylate  
(macromer; photopolymn. of water-sol. macromers for encapsulation of biol. materials)  
RN 26570-48-9 HCA  
CN Poly(oxy-1,2-ethanediyl), .alpha.-(1-oxo-2-propenyl)-.omega.-[(1-oxo-2-propenyl)oxy]- (9CI) (CA INDEX NAME)



IC ICM B67C003-00  
NCL 264004100; 427213300  
CC 63-6 (Pharmaceuticals)  
Section cross-reference(s): 35  
IT **Collagens**, biological studies  
(photopolymn. of water-sol. macromers for encapsulation of biol. materials)  
IT **26570-48-9P**, Polyethylene glycol diacrylate 178402-40-9P  
(macromer; photopolymn. of water-sol. macromers for encapsulation of biol. materials)

L41 ANSWER 2 OF 3 HCA COPYRIGHT 2004 ACS on STN

125:137244 Gels for encapsulation of biological materials. Hubbell, Jeffrey A.; Pathak, Chandrashekhar P.; Sawhney, Amarpreet S.; Desai, Neil P.; Hossainy, Syed F. A. (University of Texas System, USA). U.S. US ~~5529914~~ A **19960625**, 34 pp., Cont.-in-part of U.S. Ser. No. 870, 540. (English). CODEN: USXXAM. APPLICATION: US 1992-958870 19921007. PRIORITY: US 1990-598880 19901015; US 1991-740632 19910805; US 1991-740703 19910805; US 1992-843485 19920228; US 1992-870540 19920420.

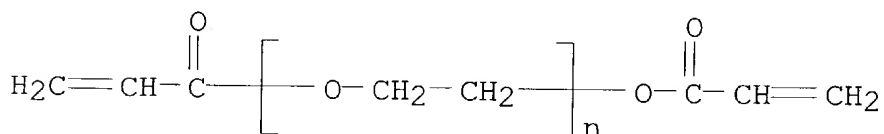
AB This invention provides novel methods for the formation of biocompatible membranes around biol. materials using photopolymn. of water-sol. mols. The membranes can be used as a covering to encapsulate biol. materials or biomedical devices, as a "glue" to cause >1 biol. substance to adhere together, or as carriers for biol. active species. Several methods for forming these membranes are provided. Each of these methods utilizes a polymn. system contg. water-sol. macromers, species which are at once polymers and macromols. capable of further polymn. The macromers are polymd. by using a photoinitiator (such as a dye), optionally a cocatalyst, optionally an accelerator, and radiation in the form of visible or long-wavelength UV light. The reaction occurs either by suspension polymn. or by interfacial polymn. The polymer membrane can be formed directly on the surface of the biol. material, or it can be formed on material which is already encapsulated.

IT **26570-48-9**

(gels for encapsulation of biol. materials)

RN 26570-48-9 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-(1-oxo-2-propenyl)-.omega.-[(1-oxo-2-propenyl)oxy]- (9CI) (CA INDEX NAME)



IC ICM C12N011-04

ICS C12N011-02

NCL 435182000

CC 9-16 (Biochemical Methods)

Section cross-reference(s): 13, 14, 63

IT **Collagens**, biological studies

(gels for encapsulation of biol. materials)

IT 9002-84-0, PTFE 9002-88-4, Polyethylene 9002-89-5, Polyvinyl alcohol 9003-00-3, Acrylonitrile-vinyl chloride copolymer 9003-07-0, Polypropylene 9003-53-6, Polystyrene 9004-34-6, Cellulose, processes 25038-59-9, Polyethyleneterephthalate, processes **26570-48-9** 33410-59-2, Poly-HEMA  
(gels for encapsulation of biol. materials)



L41 ANSWER 3 OF 3 HCA COPYRIGHT 2004 ACS on STN

124:3044 Control of diseases of rice with sheets containing microbicides and water-absorbing polymers. Kurahashi, Yoshio; Wada, Yuzuru; Kamata, Yasuhiro; Sawada, Haruko (Nihon Tokushu Noyaku Seizo Kk, Japan). Jpn. Kokai Tokkyo Koho JP 07242504 A2 **19950919** Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1994-56800 19940303.

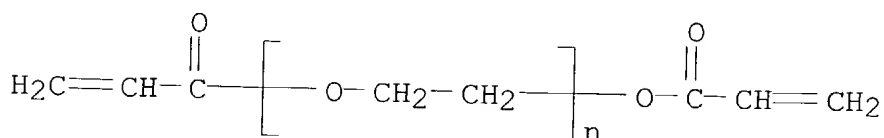
AB Diseases of rice seedlings and rice after transplantation are controlled by laying sheets comprising microbicidal compds. and water-absorbing polymers at the bottoms of nursery boxes and solubilization of the microbicidal compns. from the sheets. Wettable powder (8 g) contg. 50% N-[1-(4-chlorophenyl)ethyl]-2,2-dichloro-1-ethyl-3-methylcyclopropanecarboxamide (I) was mixed with 5 g powd. polymer absorbent, the mixt. was placed between sheets of poly(vinyl alc.)-coated paper, and heat-treated to give sheets, which was placed at the bottoms of nursery boxes for rice at 4 g (as I)/box. Rice seedlings were grown in the nursery boxes, transplanted, and then grown for 60 days to show 93% control of the disease caused by inoculation of *Pyricularia oryzae*.

IT **26570-48-9**

(crosslinked; microbicidal sheets contg. water-absorbing polymers for control of diseases in rice)

RN 26570-48-9 HCA

CN Poly(oxy-1,2-ethanediyl), .alpha.-(1-oxo-2-propenyl)-.omega.-[(1-oxo-2-propenyl)oxy]- (9CI) (CA INDEX NAME)



IC ICM A01N025-34

ICS A01N025-00; A01N025-10; A01N053-12

CC 5-2 (Agrochemical Bioregulators)

IT Acrylic polymers, biological studies

**Collagens**, biological studies

Polyamides, biological studies

Polyesters, biological studies

Polyethers, biological studies

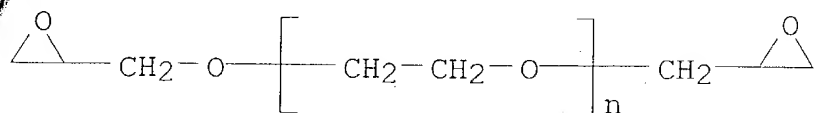
Polysaccharides, biological studies

Proteins, biological studies

(microbicidal sheets contg. water-absorbing polymers for control of diseases in rice)

IT **26570-48-9**

(crosslinked; microbicidal sheets contg. water-absorbing polymers for control of diseases in rice)



- IC ICM D06M013-18  
ICS D06M014-06
- CC 40-9 (Textiles and Fibers)
- ST crease resistance grafted silk; lightfastness vinyl compd grafted silk; antistatic vinyl compd grafted silk; dyeability vinyl compd grafted silk; styrene grafted silk crease resistance; epoxy grafted silk lightfastness; **wool** grafted crease resistance; acrylate grafted crease resistance; abrasion resistance grafted silk
- IT Electric charge  
(prevention of, in silk and **wool** fibers, by grafting with epoxy compds. and vinyl compds.)
- IT Abrasion-resistant materials  
Acid-resistant materials  
Alkali-resistant materials  
Light-resistant materials  
(silk or **wool** grafted with epoxy compds. and vinyl compds. as)
- IT Textile easy-care finishing  
(creaseproofing, of silk and **wool** fabrics, by grafting with epoxy compds. and vinyl compds.)
- IT Polymerization  
(graft, of epoxy compds. and vinyl compds., on silk or **wool** fibers, for improved crease resistance and lightfastness)
- IT Textiles  
(**wool**, grafted with epoxy compds. and vinyl compds., with improved crease resistance and lightfastness and abrasion resistance)
- IT 79-39-0DP, Methacrylamide, graft copolymers with silk or **wool**, epoxy compds. and vinyl compds. 80-62-6DP, Methyl methacrylate, graft copolymers with silk or **wool**, epoxy compds. and vinyl compds. 96-09-3DP, Styrene oxide, graft copolymers with silk or **wool**, epoxy compds. and (meth)acrylate compds. 100-42-5DP, Styrene, graft copolymers with silk or **wool**, epoxy compds. and (meth)acrylate compds. 101-90-6DP, Resorcinol diglycidyl ether, graft copolymers with silk or **wool**, epoxy compds. and vinyl compds. 106-87-6DP, graft copolymers with silk or **wool**, epoxy compds. and vinyl compds. 106-89-8DP, Epichlorohydrin, graft copolymers with silk or **wool**, epoxy compds. and vinyl compds. 122-60-1DP, Phenyl glycidyl ether, graft copolymers with silk or **wool**, epoxy compds. and vinyl compds. 141-32-2DP, Butyl